# Telephony.

THE AMERICAN TELEPHONE JOURNAL

Comprising Telephony, American Telephone Journal, Telephone Weekly, Telephone Magazine, Telephone Securities, The Telephone, Sound Waves
PUBLISHED WEEKLY BY THE TELEPHONY PUBLISHING COMPANY
MONADNOCK BLOCK, CHICAGO

H. B. McMEAL, President and Editor. H. D. FARGO, Secretary and Treasurer. J. C. KELSEY, Vice-President and Financial Editor.
S. R. EDWARDS, Technical Editor. J. R. HASTIE, Advertising Manager. W. E. RAYMOND, Subscription Manager.

Entered as second-class matter September 4, 1908, at the post office at Chicago, Ill., under act of March 3, 1897

Volume 68
Number 11

CHICAGO, SATURDAY, MARCH 13, 1915

Subscription—10 Cents a Copy
$3 a Year U. S., Cuba and Mexico
$4 Canada, $5 Other Countries


### LEARN TO WORK INTENSELY.

**It is a good rule to endeavor, hour by hour, and week after week, to learn to work hard. It is not well to take four minutes to do what you can accomplish in three. It is well to learn to work intensely.**
—Charles W. Eliot.

### Handling Service Complaints.

The difficulties of maintaining first class telephone service are rarely appreciated by the public, which naturally cannot realize the complications of traffic, the pressure of work upon switchboard positions, and the supervision necessary to expedite service. Unfamiliarity with operating conditions on the part of a complaining subscriber, often makes the restoration of normal service to and from his station harder, since the tendency of the fault-finder is to demand little less than perfection, and to give the company too little credit for its efforts. In dealing with such subscribers, too much care cannot be taken to let them see for themselves the inside workings of the central office, if they can be persuaded to make a visit to the operating room. Even more than this, is it essential to fully inform complainants of the character of the service investigation resulting from their appeals.

In a representative case of this kind, the subscriber and the company were at swordspoints for months, so that the matter was finally taken to the state commission. A study of the voluminous stenographic evidence taken by the board, of the special reports of telephone and commission investigators, and of the extended correspondence arising from apparently simple causes, suggests the importance of making the utmost possible effort to acquaint disgruntled subscribers with the detailed steps being taken to improve their service, once a complaint begins to grow toward a grudge.

In the instance in mind, the troublesome line was placed under observation soon after the subscriber applied to the local chief operator for help in raising the standard of his service. But the necessity for observing the time limits of conversations to see that interruptions were prevented, was not realized by the subscriber, who assumed that a system of espionage was being practiced upon him. He did not appreciate that the transferring of his line to the desk of the chief operator and that frequent listening-in was a necessary step toward remedying adverse conditions. Again, it was necessary to make test calls through the co-operation of chief operators in distant exchanges as a check upon the work of those in the local office. Special tests were made by the local wire chief and inspectors visited the subscriber's station, replacing a large part of the equipment in the effort to remove every possible cause of trouble. Some of these steps were apparently appreciated, but the systematic efforts the company was making to get at the roots of the trouble, were not comprehensively set forth until the public hearing given by the commission.

In this case, the evidence discloses that the subscriber was unreasonable (Grady vs. New England Telephone & Telegraph Co., Massachusetts Public Service Commission, Complaint No. 384). Out of the proceedings, however, which were protracted in the extreme, and which finally led to a service cancellation order by the subscriber, came several lessons of more than local application. The telephone and telegraph department of the commission spent probably 25 times as much time and effort on this case as on any other service complaint since its inauguration, but without being able to harmonize the parties.

The importance of constant courtesy on the part of employes and of a willingness to go more than half way toward acknowledging discourtesies and in avowing the absence of intentional rudeness, cannot be exaggerated in the relations between representatives of any telephone company and subscribers. The avoidance of red tape and delays in handling such complaints, readiness to meet the subscriber on his own grounds, and appreciation on his

part that specific occurrences in a service of so transitory a nature as telephony are extremely hard to run to earth, will do much to disarm hostility and keep such cases from dragging their weary way through to public tribunals.

Certainly it is true that the great majority of people, perhaps 99 per cent., are disposed to be reasonable when they are acquainted with the facts and the specific efforts of a company to better the service. Every operating company, dealing as it must with the complex assemblage of temperaments borne by people within its territory, cannot take too much trouble to avoid friction in the initial stages of complaint work, to say nothing of maintaining poise and a spirit of co-operation on the part of its representatives at all other times.

# Zeppelin Did It

## By HERBERT KAUFMAN

The oldest phrase in every language is: "It can't be done." Men thought it before they found the words with which to say it.

The unusual always seems the impossible. To the majority in each generation "seeing is believing." A few men in every epoch have been responsible for the progress which signalized their time. "We" never do it. Some "he" pays the price and humanity profits by the exercise of a lone, indomitable will.

You never helped anybody to help you. Daily you seek to reduce a superb probability to failure. The instant you hear of something beyond the range of your circumscribed knowledge, you reject it as unfeasible and contend that your superficial estimate is accurate, wantonly encourage incredulity where a simple word of cheer would recharge the spent batteries of hope.

No matter how humble your station, you have known at least one person who despite your ridicule "made good" on a scale that astounded his early acquaintances. It's a standard experience; everybody underestimates the other man. Your grandfather's grandfather inherited the instinct from the apes, and you will transmit it to your sons. But folks of your stripe can't permanently oppose the invulnerable spirit of achievement.

There is that in a chosen few which death alone can thwart, and until the last hour of the last day, magnificent determinations will spur men on to their goals, though seven times the seven labors of Hercules lie in the path. They were all "fools" to their contemporaries—the nameless immortals who designed the first crude wheel, the firestick, the primitive loom, as well as the supermen who endowed us with the Titan tools by which we do our modern wonderworks. No circumstance can daunt courageous genius.

Another lifetime of dogged endeavor has just been splendidly vindicated. Another indelible example has been set in the heavens to remind rebuffed and toilworn competence that the game is worth the playing. Zeppelin's fleet has crossed the channel. The old warrior has lived to watch his ship of dreams sail into reality. Today, with the adulation of a nation ringing in his ears, his memory harks back to a dread of disbelief, of sneers and shrugs and lifted eyebrows, of wreck upon wreck, of exhausted funds and desertion. He bows to the applause of the multitude and takes it at its worth—he knows. By virtue of his own unflagging and relentless effort was the triumph attained.

You can lose everything that you ever had and still win if you keep faith in yourself and your work. When you understand this fundamental truth, anything that is logical is feasible.

Copyright, published by permission Chicago Tribune.

# Some Notes on the Valuation of Physical Property

**Determination of Reproduction and Present Values—Percentages Used in Computing Collateral Costs and Different Methods of Arriving at Same Results—Analyzing Reasonableness of Percentage Used by Making a Construction Schedule—Paper Presented at National Convention**

By Kempster B. Miller

It is not my purpose in this informal talk to make any attempt at a complete analysis of the valuation of the physical part of public utility property, but rather to devote my attention to a few of its phases which seem to have been generally misunderstood among the rank and file.

While the subject is not new, it has never before assumed anything like its present importance in the public mind, and it is therefore very new to most people. The confusion which exists concerning it, is not, therefore, to be wondered at. Much of it is due, in a large measure, to the loose talk and inaccurate writing that has been indulged in, not only by property owners and appraisers, but by some of the commissions and courts as well.

It seems to me that, until a few of the simple and fundamental points are cleared up, it is hopeless to get much light on the really subtle points that are met at every turn in the pursuit of the truth about this very complex subject. I will deal, therefore, with only a few of the fundamentals.

### Cost and Value Defined.

The first fundamental, about which almost universal confusion exists, is the distinction between *cost* and *value*. The courts, commissions, engineers, and laymen have, in a large number of cases, used these two terms interchangeably and often without any apparent distinction in their minds between them. Value, however, it may be defined, is likely to differ widely from cost, and the more widely the two are separated in point of time, the greater is the difference likely to be. For instance: Will anyone say that a piece of real estate in what is now downtown Chicago, which 50 years ago *cost* ten dollars, has a *value* of no more than that now; or is the *value* of a crate of apples which has rotted on the owner's hands to be measured by the *cost* of those apples a month ago?

I have stated that the greater the period which separates the cost time—that is, the time of purchase—from the time of valuation, the greater the difference between cost and value is likely to be. Conversely, it is true that the closer together these two times are taken, the more nearly is cost likely to approximate, and be a true measure of, value. When the date of cost and the date of valuation are coincident, then, and only then, is the cost likely to be a fair measure of the value. It is for this reason that the courts have held that the *cost of reproduction* is one of the important things to consider in arriving at the value of a physical property. Unfortunately for the reproduction theory of determining cost, and by it measuring value, it is not feasible to tear down the plant and build it up again so as to find out how much it would cost to reproduce it now. The only alternative, in order to arrive at the cost of reproduction, is to make as close an estimate as possible of the hypothetical reconstruction of the plant at the present time.

This does not mean that in this hypothetical process we are to assume impossible things, for instance, that the plant is to spring into existence over night, as by miracle. Obviously, we must confine ourselves to what is humanly possible. This means that we must allow a reasonable period for our hypothetical reconstruction. We must consider, not only those costs which enter into the purchase of material and the payment of wages, but also all collateral costs which would reasonably and necessarily enter into the construction of the plant. These include interest on the capital invested and lying idle during the construction period, the costs due to taxes and insurance during the construction period, the administrative, engineering and legal expenses necessary in order that the plant may be constructed properly and economically, as well as all the cost of non-productive labor and all incidental charges that would in all probability arise during the carrying out of the construction.

### Collateral or Overhead Costs.

I prefer to employ the term *collateral costs* to designate all those costs over and above the ones more directly associated with the purchase of material and the labor of putting it into place, rather than the more common terms *overhead* and *indirect* costs, because I believe it is more nearly descriptive.

Because these collateral or overhead costs have to be estimated separately from the items directly associated with labor and material, and perhaps because they are often computed as a percentage of those items of direct cost, many people have reached the conclusion that there is something mysterious about them and that they are, in fact, intangible costs. I will confess that these costs, as put up by some appraisers, are mysterious, but there could be no greater mis-statement of fact than to call them "intangible." They are just as real, just as tangible, as the costs which enter into the purchase of poles and wire. The man who is putting up his money to build the property will find that the money spent for these necessary items of collateral cost is just as real as that which he spends for the laborer's hire. They are costs which necessarily enter into the construction of the physical property and are, therefore, directly involved in the reproduction cost of the physical plant.

### Percentages Allowed for Collateral Costs.

Now, one of the questions which has caused much confusion and concern is—What is the proper percentage to allow for these collateral or overhead costs? We have all heard that the Wisconsin Railroad Commission customarily allows 12 per cent. You have heard that other commissions have allowed as much as 26 per cent., and, perhaps, that McMeen & Miller in some cases have allowed 25 per cent. Apparently someone is wrong, but, in reality, there is no proof on the face of things that all of these percentages may not be right, even in the same instance. I have two propositions to put before you on this very vital matter:

First, that it is folly to apply the same percentage for all cases.

Second, that even in the same case, widely different percentages may be perfectly proper and arrive in the end at the same result.

As to the first of these propositions, the consideration of such items as interest and taxes alone will show the absurdity of applying the same collateral cost percentage for all sizes and conditions of property. It is conceivable that a plant in a small town could be built in six months and that the average time during the construction period would be, say, three months. With interest at 6 per cent. per annum, this would mean that the item of interest during construction would amount to 1½ per cent. of the total capital invested. It is equally conceivable that another plant, even with the most vigorous prosecution of the construction, might require four years to build. It would be impossible to economically reconstruct the plants in many of our large cities in that time. Under this assump-

tion of a constructive period of four years, the average time of investment for the entire amount involved might be somewhere near two years, and with interest at 6 per cent. per annum *the interest during construction* item alone would, in this case, be 12 per cent. We thus have variation of from 1½ per cent., in the case of the small property, to 12 per cent. in the case of the large, for this one item alone. A little consideration will show that time enters as an element into nearly all of the collateral costs, directly, in regard to interest, taxes and insurance, and indirectly, in nearly all the others. This consideration of the time element alone is sufficient to show that there is no rhyme or reason in always applying the same percentage for collateral or overhead costs.

Coming now to the second proposition, I wish to show that the total amount of the overhead cost to be applied in any given case, assuming it is to be applied as percentage, may vary between even wider limits than 12 and 26, as already cited, and still be perfectly proper. The whole question resolves itself into what the appraiser has included in his unit costs directly associated with the labor and material items and what he has included in his collateral costs. Obviously, if one man in making an appraisal of a property puts his incidentals, waste and breakage, his tool expense and cost of handling material into his unit costs—and it is perfectly proper to do so—he will have less to account for in his collateral or overhead cost than will the man who, in appraising the same property, builds up his unit costs without these elements and accounts for them in the collateral costs. The one man may have collateral or overhead costs amounting to 12 per cent., the other amounting to 26 per cent., and both may be right. You may ask: Why should these two appraisers not act alike in this matter? Why should not each include the same elements in his direct unit costs and in his collateral costs? A wide experience in such matters has shown me that one method is most adaptable to one particular case and another to another. The scheme of accounting employed by the company whose plant is being appraised, will often facilitate unit costs being determined in one way and prohibit their being determined in another.

Possible and Proper Difference in Overhead Percentages.

As a specific illustration of the possible and proper difference in overhead percentages, I will refer to a discussion which took place before the Western Society of Engineers, following a paper delivered on March 24, 1913, by Halford Erickson, formerly a member of the Wisconsin Railroad Commission. When questioned on the subject of the 12 per cent., which the Wisconsin commission usually allowed for collateral construction costs, Mr. Erickson stated that the "visible" percentage which the commission allowed varied from 12 to 15 per cent. He also said that if 10 per cent. contractor's profit, which the commission always allowed, were taken out of the unit costs and added to the overhead costs, the figure for overhead charges would run "somewhere in the neighborhood of 20 per cent." This illustrates the point I am making nicely. If the contractor's profit allowed by this commission is put in the unit costs, the overhead percentage is from 12 to 15. If it is taken out of the unit costs and put into the overhead, the percentage for overhead charges is increased to about 20.

Personally, I believe that the appraiser should in all cases take pains to be perfectly frank and clear in his exposition of the make-up of the unit costs with which he builds up his direct construction costs and the make-up of his collateral or overhead costs. The failure to do this, and also the lack of understanding on the part of some of the courts and commissions, is, in large measure, responsible for the confusion which exists on this very simple question. I say this without the slightest intention of criticizing the excellent work that is being done by some of our commissions and engineers. The whole subject is in a state of evolution. All of us who have been working in this field have seen new light as we progressed, but we surely have not yet seen it all.

Taking up another phase of the subject, I am inclined to deplore the almost exclusive use of the percentage method of estimating collateral or overhead costs. It often leads to illogical results, and assuming sufficient familiarity with the handling of large construction enterprises, there is often presented a better way of arriving at these costs, or at least a good way of checking the reasonableness of the percentages applied.

Estimating Overhead Costs by Construction Schedule.

Percentage, of course, is the logical thing by which to figure interest. But even here, instead of adopting the usual method of applying half the interest rate per annum to the total investment, or all of the interest rate per annum to half the investment (an approximation which becomes true only when the money is spent at a uniform rate throughout the entire construction period), it is better in estimating the hypothetical reproduction of the plant to make up a construction schedule. This schedule should extend over the construction period and show just how much will have been done and how much money will have been expended at various assumed dates during this period. With such a schedule, which it is well within the province of any good construction engineer to make, the figuring of the interest during construction becomes a mathematical computation rather than a guess.

It is the usual custom to estimate the administration expense, the purchasing and warehouse expense, and other similar items which enter into the collateral or overhead costs, on a percentage basis. I have found in a number of cases that it was possible to estimate pretty closely what the organization and expenses would be for carrying out certain phases of the collateral or overhead work during the construction period, and on this assumption to make a calculation with which to check previous experience. To illustrate, it is feasible to set up with fair accuracy a hypothetical organization for conducting the warehouse and purchasing affairs of a large proposed construction enterprise. In case of a telephone exchange, one would know that a purchasing agent was necessary, if the right kind of material was to be purchased at the right prices.

According to the size of the job a fairly close estimate may be made as to the number of clerks and other assistants that this purchasing agent should have. The requirements for warehouse space and pole yards also can be easily estimated for any given town, and the rent of these, together with the wages of the men necessarily engaged in handling material, in watching the property, or in other capacities, figured out. By giving the matter sufficient thought, an engineer with the proper experience will find it possible to arrive at a sum for these expenditures in which he will have some confidence. I do not mean that this should be the only criterion for this class of collateral costs. What I do mean, however, is that, assuming sufficient experience and analytical power, it will arrive at a result that is probable more accurate than the usual percentage, which, as a rule, has been handed down by word of mouth and bandied about so long that no one knows where it came from.

If an engineer has fortified himself with such an analysis as I have just referred to, he will at least be able to show the reasonableness of the percentage he uses if he adheres to the percentage method. And in presenting his case to court or commission he will not have to fall back on that insipid statement that he has used a certain percentage because someone before him had used it. This is likely to lead to the embarrassing question, "Where did that percentage originate, anyway?"

The thing that is needed in appraisal work, and the thing that will do most to wipe out the divergence of opinion that often exists between courts and commissions, on the one hand, and property owners on the other, is for the engineer to so prepare his appraisal that it can be intelligently analyzed by others. It is by no means easy to do this. Too often exact

data as to the cost of doing things is not obtainable, but this situation is rapidly improving with the increasing realization of the importance of knowing such things. As our methods of accounting become more standardized and better understood, and as the public utility companies wake up to the fact that they are probably losing large sums of money in their property value by not being able to prove all the elements which enter into their costs, we may look for further improvement. At present I am frank to say that in many years of experience I have never made an appraisal of a public utility property in which it was possible to determine from the books just what the average costs of doing the various kinds of things were. This is due to no attempt on the part of the companies to conceal anything in their books, but rather to the fact that the books, the work orders, and the other documentary evidence were not primarily intended for that purpose.

Too often the costs on which an appraisal is based are made up by more or less reliable data as to the actual cost of some few small jobs. Usually the jobs which a good foreman likes to remember and talk about, are the ones which went smoothly from start to finish, where the digging was easy, the weather fine, and where he made a record for low costs. The ones on which his trenches caved in, or his men struck, are the ones he likes to forget. The costs of these may be a thousand per cent. higher than the low ones, but they are the ones most likely to be thrown out because abnormal, or forgotten. Yet the money spent was real and necessary. Such costs should enter with the low ones into the general average, for they will occur again.

### Too Low Unit Costs Generally Applied.

Then again, in making up cost data it is almost impossible to get in all the items. The inexperienced appraiser is likely to see not much more than the mere labor and material, and he is likely to miss a good deal of that. On the whole, the conviction grows on me that the unit costs generally applied in telephone property appraisals are too low, whereas, at first sight, they often appear unreasonably high.

The total of all costs directly associated with labor and material, plus all the collateral or overhead costs, go to make up the reproduction cost of the physical plant. This, as previously stated, is not necessarily value, but it is one of the best measures of it. Courts have held repeatedly that reproduction cost is not the only criterion of value, but that all considerations that might have any effect must be taken with it in order to arrive at value.

### Determination of Present Value.

Now as to *present value* of the physical property as against the value arrived at by the reconstruction cost method, this is the value which takes into account the depreciated condition of the property. If value new is to be measured by the reproduction cost alone, then present value would be the reproduction cost less the actual accrued depreciation. The determination of this, of course, involves a consideration of the condition of the plant, and this can be determined only by inspection. That mature judgment is needed in this, goes without saying. By assigning a condition percentage to each element of the physical plant, a composite physical percentage may be arrived at, and from this the so-called present value determined.

It must be remembered that a piece of property does not, as a rule, depreciate toward zero value, but rather toward its junk or salvage value. Frequently, appraisers determine percentage condition almost exclusively by age considerations. The logic of this is hard to see. It is true that age is one of the important points to consider in determining condition, but to use it as the sole, or even as the principal, criterion is obviously improper. For instance, a desk stand five years old may be, to all intents and purposes, practically as good as new. A little nickel plating would make it impossible to distinguish from a new one. Are we to say that because telephones are usually given an average life of ten years, that this five year old desk stand has depreciated 50 per cent. and only has half of its original value? This subject of the present or depreciated value is too large a one to discuss in all its phases here. Obviously it is the sound judgment of the appraiser that, in the end, must be the principal guide in setting the value.

Perhaps, the most important point in connection with present value is: For what purpose is it to be used? To those who contend that the present or depreciated value is the proper one on which to base the rate of return that a public utility should be allowed to earn, I have this question to ask: Why should any investor ever put a dollar into a public utility enterprise if he knows that the return he is to be allowed to earn will be based, not on his investment, but on a constantly diminishing sum? The most enlightened of our public utility commissions and courts have stated that a rate of return should be allowed public utilities sufficient to assure the necessary inflow of capital as additional money is needed for betterments and extensions. Obviously, if this is not done, our public utilities must fail.

In this whole talk I have confined myself to the physical property value and have not considered the other elements which go to make up total value. The total value of a property rests not only in the physical plant, but also in the fact that this plant is, so to speak, endowed with life—that it is a going plant with an organization and business that is actually giving telephone service and receiving remuneration for it. This value, over and above the material value of a dead plant, does not spring up automatically with the creation of the physical plant, but must be brought into being by the lapse of time and the expenditure of energy and money. It is classed among the intangible elements of value and is often referred to as *going value*, or, when computed on the reproduction theory, it is sometimes taken to be the cost of developing the business. This is another and one of the most important phases of the subject with which I am not dealing in this talk.

---

### Competition and the Keystone Telephone Co.

The Keystone Telephone Co., of Philadelphia, Pa., has issued a neat fourteen-page booklet entitled "The Case of the Keystone Telephone Co.," which contains many interesting facts and figures regarding competition in general and the case of the Keystone Telephone Co. in particular. The booklet is in the form of a letter sent by Edward M. Cooke, second vice-president to I. D. Gindhart, general contract agent of the company.

"As a matter of fact," says Mr. Cooke, "so long as human nature remains what it is, we shall need competition in all activities of life. Telephone competition in Philadelphia is directly responsible for our low rates. Do not forget that prior to the advent of the Keystone Telephone Co., the unlimited business service telephone cost $160 per year with comparatively few subscribers. It costs $90 now, in a wide field saturated with telephones."

Mr. Cooke called attention to the numerous benefits of competition, as against the waste caused by duplication, such as improved mechanical devices, greater progress of improved methods, improved service and reduced cost. He also refuted the argument of the unthinking that two telephones are a nuisance. "You don't confine yourself to one door in the house," said Mr. Cooke. "You welcome the service of two or more messengers to do your errands. You undoubtedly find a plurality of rubber stamps a convenience. Each one has its own sphere of usefulness." An instance is cited where the Bell company's system was temporarily put out of service by the breaking of a city water main and the Keystone company proved its efficiency by adequately handling the traffic of the city alone.

# Sunshine and Telephones

## Early Growth—The Largest Independent Telephone System

By J. C. Kelsey

In your mind, undoubtedly, California stands for gold. But the early history of this state had no contemplation of gold at all. Portola, a soldier, and Serra, a priest, came here in 1769 to establish missions and convert the natives. They little dreamed of the real possibilities of this wonderful country.

The first town that was founded, was San Jose, in 1777. Four years later, near the close of the Revolutionary War, the second pueblo was established and called the "City of our Lady, the Queen of the Angeles," or Los Angeles.

---

It was not until 1800 that California became known to the Eastern traders. The visits of all foreigners were discouraged and finally forcibly repelled.

Two armed vessels from Buenos Aires, representing a revolutionary party fighting Spain, came in 1818 and demanded the surrender of this loyal province. But the invaders were finally repelled. Peace lasted four years when a party from a Mexican war vessel landed and demanded the surrender of the city. So the flag of Spain, after floating for 300 years, bowed to the authority of Mexico.

---

The serenity of the Mexican authorities was ever ruffled by the knowledge that England, France and the United States wanted the country. The white population had grown to 10,000, which included several hundred Americans. They raised cattle, sawed lumber and formed the really industrious element of the country but they were viewed with distrust.

The feeling against the Americans grew until 1846 when an order came to expel them from the country. But Kit Carson with 24 Americans attacked the garrison, and proclaimed the "Republic of California." This started a war which ended in 1847.

A war between General Fremont, Kearney and Stockton, over authority, was soon started, and General Fremont was court-martialed. Later, he went to the United States Senate as the first representative of the state.

---

But the great thing was yet to occur: Early in 1848, an accident happened. James W. Marshall found the first specimen of gold in a tail race on the American River. He accumulated a fortune quickly, but he soon wasted it and spent his last years in a cabin near the scene of his discovery.

Naturally there was a gold rush and the story of the "forty-niner" is familiar to all. Some men came by wagon and ship, and others came across the Isthmus of Panama, little dreaming of a canal to be dug there in later years.

Inside of six months there were 5,000 newcomers, and the territory became a state in 1850.

---

Going back to early history, to trace the story of Los Angeles, the pueblo plan of the Mexicans was not a success. Priests, officials and soldiers were the only Spaniards to migrate to California, and they all preferred to live near the military post.

Municipal existence did not begin for many years. Governor DeNeve found it hard to induce settlers to come. In spite of beauties and financial inducements, he persuaded only ten Indians, eight negroes, two Spaniards and a scattering of mulattoes to migrate there. By 1800 the population was 315.

---

By 1830 the population of Los Angeles reached 1,200. This was accomplished by including the ranches of what is now called the county. In 1841, 40 emigrants from Pennsylvania arrived, and they married into the local families of Spanish extraction.

In 1841, William Wolfskill, a Kentuckian, set out two acres of oranges, and really laid the foundation of the citrus industry.

It was not until 1847 that Los Angeles had an American on the city council. He was appointed by the mayor, but the indignant native councilmen resigned, leaving Foster all alone to manage the city.

---

The year 1849 proved a bad one as all the able-bodied men left for the gold fields. This is shown by the census of 1860 which showed 4,399 citizens in Los Angeles.

At this time, the Union Pacific road was nearing the Pacific Coast. The Southern Pacific came in 1877, and the real estate men began to divide up the large ranches into smaller ones—the town lot was not yet a condition.

---

In the early 80's there was a railroad war. Rates were cut to ridiculous figures. All kinds of people took advantage of this condition—and boomers took charge.

Boomers from Kansas, Iowa, and other new states rushed in, and with true disregard, staked out lots clear back to the mountains of San Bernardino.

In 1887, the boom collapsed, but it had transformed Los Angeles from a sleepy Mexican pueblo into a hustling city. In 1890, the population was 50,000.

---

Since then the city has doubled and redoubled, and today shows no sign of abatement of growth, unless the temporary depression is counted. Today, the population registers 550,000. The city has been erecting six miles of buildings every year for many years, the cost of the buildings in three years being $85,000,000.

Of the moving picture films, 70 per cent. are produced in Los Angeles. Ten thousand people are employed, and $7,500,000 is expended annually in wages and supplies for this entertaining industry.

In the tuna industry, over 300,000 cases of this fish—the chicken of the sea—are packed and sold.

---

The biggest thing done is the building of the aqueduct which brings an unfailing supply of water from a distance of over 240 miles. It has cost $25,500,000, and is designed to take care of the needs of 3,000,000 people.

It delivers 258,000,000 gallons of water into the San Fernando reservoir, 25 miles away, and no pumps or stand-pipes are needed to give pressure. As water costs the normal city, in which you live, about 6 cents a thousand gallons, $15,000 worth of water is delivered daily.

---

Another big thing, of course, is the automobile. The city has more cars per man, woman and child, than any other city. Over 40,000 cars are licensed—besides which the average wealthy tourist brings his along.

Over $5,000,000 has been spent on good roads, so that one can ride all day on the perfect roads of Los Angeles county alone.

California, itself, has expended $18,000,000 and this means 18,000 miles of perfect roads in the state.

Now the natural question for telephone men to ask is: "How has the telephone industry fared in such a rapidly growing community?"

More telephone companies have been ruined by forward than backward growth, but there are two distinct communities to which to call your attention:

The Pioneer Telephone Co., of Oklahoma City, was an Independent telephone company which literally had to go to Boston to finance its growth. The community was new. Local capital was soon exhausted, so the telephone men had either to go bankrupt or seek an alliance with the Bell company which had vision enough to recognize the possibilities.

The Home Telephone Co., of Los Angeles, had the growth experience, but it managed to finance itself—truly a wonderful achievement.

---

In 1897, an attempt was made to get a telephone company to locate in Los Angeles. The community had 100,000 people, and the service of the Bell company at that time was deemed insufficient.

The effort to launch the company failed, and the franchise was allowed to rest. Southern California could not get the service it wanted, and the matter rested for several years. In 1902, the Bell interests had 12,000 telephones.

---

September, 1903, the Empire Construction Co. turned over a telephone system of 8,000 telephones to the Home Telephone Co. of Los Angeles. The Empire Construction Co. was composed of the following men: John Van Liew, F. F. Graves, Frank Wachter, A. B. Cass, J. M. C. Marble, Thomas W. Phillips, James H. Adams and J. S. Torrance.

The growth of the Home Telephone Co. has been as follows:

| | |
|---|---|
| Dec. 31, 1903—10,992 telephones | Dec. 31, 1909—35,359 telephones |
| Dec. 31, 1904—15,110 telephones | Dec. 31, 1910—40,064 telephones |
| Dec. 31, 1905—20,125 telephones | Dec. 31, 1911—45,115 telephones |
| Dec. 31, 1906—26,192 telephones | Dec. 31, 1912—51,658 telephones |
| Dec. 31, 1907—28,604 telephones | Dec. 31, 1913—57,732 telephones |
| Dec. 31, 1908—30,187 telephones | Dec. 31, 1914—59,378 telephones |

The company grew at the rate of 5,000 telephones per year, beating all other Independent records. It has now passed the 60,000 mark and the growth has not ceased. It is truly the largest Independent telephone company in America today.

---

I can consistently say that the service cannot be excelled. The reader will remember that the Los Angeles company started as a manual system, and turned over to an automatic service.

The old manual switchboard is in use today—having practically 14,000 multiple jacks per section. The first group, 0-5,999, is called Section A, and its jacks connect directly with the A group of automatic switches. The second group, 0-7,899, is connected with the F group of automatic switches.

---

There are 14,000 telephones in private branch exchange service. There are 2,100 P. B. X. trunk lines—all leading to the old manual board, where sit from 20 to 30 operators.

I am at the Ivins Hotel—60,002 is our Home telephone number. If I want a number, F 4,207, I take the room telephone receiver from the hook and the private branch operator trunks me to the main office.

Instantly the operator responds, inserting her plug in the old manual switchboard No. F 4,207, and ringing the required subscriber.

If I want A 4,207, the local P. B. X. operator trunks my call to the same old manual central office. The operator inserts the plug in the multiple and rings A 4,207 as a manual operator.

But if I want 14,207, a telephone connecting with an outlying pure automatic exchange, I signal my P. B. X. operator, who trunks me to the operator at the big central manual board, and she operates the dial.

It is a great one-way service system. Should F 4,207 want to reach me at 60,002, he works his dial and calls the P. B. X. operator direct. A 4,207 would do the same, and so would 14,207; all would dial for 60,002.

All these stations are automatic telephones, but those in sections F and A happen to have their automatic switching dials in the same office as the old manual board, hence their lines are connected to the multiple of the old board.

No one can deny the excellence of the service. There is no confusion at all. The trunks have signals, but, in addition, the order wires are provided with a tone test, so that no operator is confined to visual signals alone.

The information operator distributes requests for information to eight information operators so that at no time does a subscriber have to wait for information. The trouble desk girl can test while the man is still waiting. Records are kept which go so far as to separate bad trunks.

Each P. B. X. line handles 40 calls per day. Each downtown station handles 22 calls while the outlying residence service averages nine calls.

It is truly a wonderfully efficient and busy telephone system.

---

The company has not been without law suits. It has a franchise with a sliding scale and in 1906, the city undertook to fix the rates.

The company carried its case to the state supreme court, claiming a franchise right, but the court decided that no city council has a right to bargain away rates at the time of franchise granting.

In 1911 the company entered suit in the federal court to restrain the enforcement of an order to fix rates. But in 1912, the suit was dropped, as the city council gave the company a raise in rates.

Today, the Home company, in common with all other public utilities of Los Angeles, has a temporary injunction to restrain the city from enforcing an ordinance. However, this is not out of the ordinary, and reveals what a public utility must face when compelled to grow swiftly and keep its earnings up to meet the conditions.

---

A very unique idea is the action of the company in insuring its income. Over half of its business is done in one center. A fire, occurring anywhere in the city, which entails a loss in income in excess of $20,000 per year, the loss per day (beyond the amount specified) will be paid until the equipment is rebuilt. The buildings and equipment are insured at $2,000,000.

The officials can go home and sleep, even while the fire gongs are ringing. It costs $4,500 a year to carry this plan out. It is something that every telephone man should investigate.

---

The company's balance sheet stands as follows:

| | |
|---|---|
| Preferred stock | $3,000,000 |
| Common stock | 3,000,000 |
| First mortgage bonds | 2,080,000 |
| Refunding mortgage bonds | 2,131,000 |

Bonds to the amount of $789,000 have been bought in and cancelled through the sinking fund. It must be remembered that California law requires a stock issue as large as a bond issue.

It is very plain that this company, with 60,000 telephones, is in good, average, financial condition.

The current balance sheet is as follows:

| | |
|---|---|
| Gross earnings | $1,909,633.86 |
| Operating expense and depreciation | 1,584,168.86 |
| | $325,465.00 |

The officers of the Home Telephone & Telegraph Co., of Los Angeles, Cal., are: A. B. Cass, president and general manager; E. J. Marshall, vice-president; M. H. Hellman, treasurer; E. P. Morphy, secretary; F. W. Rea, assistant treasurer; and Leo Keller, engineer.

The board of directors is comprised of A. B. Cass, John Grosse, E. J. Marshall, P. L. Auten, J. A. Brown, C. C. Carpenter, and W. H. Holiday.

---

A. B. Cass is the ruling spirit of the organization. He is a very successful business man and has applied these principles to the telephone company.

In a contest of economic fitness with the principles of business laid down by Mr. Cass and applied to the operation of the telephone company, there would be no question of the survivor.

---

E. P. Morphy, the efficient secretary, was in the banking business prior to going with the company in 1906 as auditor. Since 1907 he has held office as secretary. He is also president of the Southern California Telephone Association.

Leo Keller really needs no introduction to telephone men, especially to engineers and equipment men. Mr. Keller is a rare combination of engineer and business man. He is the man who has brought order out of confusion.

I could fill columns with Mr. Keller's achievements, both before and after coming to Los Angeles. The wonderful service is his creation. You can ask any business man how he feels about it. You will hear him say that Home telephone service satisfies him most of all.

---

Southern California is truly a land of sunshine, hospitality, and all that goes with it. You have to come and see before you will believe. They will convince you after you come.

This is the year to come—to see for yourself.

MORAL: Where there's a will, there's a way.

---

### Report of Ohio State Telephone Co.

The Ohio State Telephone Co., which began operations July 23, 1914, has issued its statement of earnings for the six months ending January 30, 1915. The statement shows a total operating revenue of $1,563,312. The expenses for the six months period, including taxes and insurance, were $994,227, leaving a net operating income of $569,085. A 7 per cent. dividend was paid on the preferred stock, which amounted to $169,968. Deducting the dividend and interest on bonds from the net earnings, leaves a surplus of $151,013. The statement of earnings for the six months ending January 31, 1914, is as follows:

| | |
|---|---|
| Gross revenue | $1,563,312 |
| Expense, taxes and insurance | 944,227 |
| Net income | 569,085 |
| Bond interest | 257,103 |
| Net earnings | 311,982 |
| Preferred dividend | 169,968 |
| Surplus | $ 151,013 |

---

### Pleasant Plains, Ill., Company Purchases Building.

To afford adequate facilities for its rapidly increasing business, the Boynton Telephone Co., of Pleasant Plains, Ill., has purchased a large and commodious concrete building on the corner of First and Main streets. The building will be remodeled and the latest improvements in equipment will be installed.

---

### Pacific Telephone & Telegraph Co.'s Annual Report.

The annual report of the Pacific Telephone & Telegraph Co., in which are incorporated the Pacific Telephone & Telegraph Co., the Sunset Telephone & Telegraph Co., and the Bell Telephone Co. of Nevada, shows a gross operating revenue of $18,984,166. The operating expenses were $13,296,560, leaving a net operating revenue of $5,687,606. The net non-operating revenues were $237,407. Deducting $3,664,838 for rents, taxes, interest, etc., from the gross income, leaves a net income of $2,260,175. During the year $1,920,000 were paid out in dividends. This leaves a balance of $340,175 to the corporate surplus.

The assets and liabilities of the company, as of December 31, 1914, are as follows:

ASSETS.

| | |
|---|---|
| Intangible capital | $ 14,158,928 |
| Plant | 82,930,013 |
| Other permanent and long term investments | 3,966,539 |
| Cash and deposits | 1,384,443 |
| Bills and accounts receivable | 2,227,530 |
| Materials and supplies | 1,221,406 |
| Accrued income not due | 43,413 |
| Sinking fund assets | 218,782 |
| Prepayments | 142,989 |
| Unamortized debt discount and expense | 2,173,114 |
| Other deferred debits | 31,046 |
| | $108,498,203 |

LIABILITIES.

| | |
|---|---|
| Capital stock—common | $ 18,000,000 |
| Capital stock—preferred | 32,000,000 |
| Funded debt | 41,375,000 |
| Accounts payable and advances | 4,451,864 |
| Accrued liabilities not due | 859,501 |
| Insurance and casualty reserves | 50,000 |
| Liability for employes' benefit fund | 500,000 |
| Reserve for accrued depreciation | 10,662,350 |
| Corporate surplus unappropriated | 599,488 |
| | $108,498,203 |

The total number of telephones added to the system during the year was 44,940, making the total stations in its system at the close of 1914, 692,933.

The amount, including interest, appropriated for the year 1914 for the pension, disability and insurance fund was $107,001. During the year benefits have been paid to 1,325 employes. The payments from the fund during the year were: Pensions, $6,899; accident disability benefits, $19,452; sickness disability benefits, $56,146; life insurance benefits (including expenses), $6,371; disability expenses, $10,074; state insurance, $8,059. The balance remaining in the fund at the close of the year amounted to $500,000.

---

### Telephone Pioneers to Meet in San Francisco.

The fifth annual convention of the Telephone Pioneers of America will be held in San Francisco, September 21, 22 and 23, during the Panama-Pacific Exposition. Arrangements are being made for a special train between New York, Boston, and other Eastern cities, via Buffalo, Chicago, Kansas City, Denver, Colorado Springs, Grand Canyon of Arizona, Los Angeles, San Diego and San Francisco, returning via Portland, Seattle and the Northern route.

The following were appointed a committee of arrangements with authority to appoint the necessary sub-committees: George E. McFarland, president of the Pacific Telephone & Telegraph Co., San Francisco; A. S. Hibbard, American Telephone & Telegraph Co., Chicago; and Gerard Swope, vice-president and general manager of the Western Electric Co., New York.

---

### Convention of Sixth District Missouri Association.

The semi-annual convention of the Sixth District Missouri Independent Telephone Association will be held at the Arcade Hotel, Higginsville, Mo., Tuesday, March 16. Matters pertaining to rates, bookkeeping and general telephone questions will be discussed. All telephone men in that vicinity are urged to attend.

# Convention of Iowa Independent Telephone Association

**Meeting Radically Different from Typical Conventions—Plant and Operators' Schools Conducted by State College—Good Attendance—Accounting Systems and Pending Legislative Measures Discussed—Association in Strong Financial Condition**

The ninteenth annual convention of the Iowa Independent Telephone Association was held at the Hotel Chamberlain, Des Moines, Iowa, March 9, 10 and 11. There were over 200 registered and great interest was taken in the convention program, the operators' school and the school for telephone plant men. Owing to the long and interesting programs of these two schools, which were conducted by the Engineering Extension Department of the Iowa State College, the opening of the convention proper was postponed until Wednesday afternoon. The sessions of the convention were scheduled for afternoons only on account of the schools.

### First Session of the Convention.

After the meeting had been called to order at 2 p. m., Wednesday, President H. L. Beyer, of Grinnell, delivered his annual address. President Beyer explained that the purpose of the association officials was to make the convention a radical departure from the typical telephone convention, more emphasis being placed upon the practical rather than the theoretical side of the telephone business. He told of the operators' schools, which were recently conducted by Miss K. M. Gang in various towns in the state and explained the work of Miss Gang with the member companies during the year. President Beyer also told of the work being done at the sessions of the plant school conducted by the Iowa State College during the convention meetings.

"The telephone business," said President Beyer, in speaking of the humanization of the business, "is now a profession and a science, not a mere matter of buying and selling. Business is life—not merely a means, but an end in itself. Let us live each day to the full. Business is an opportunity not merely for getting as much as possible with the least effort, but it is a medium for our larger development, our greater usefulness in facilitating human intercourse. The value of the telephone along these lines is inestimable."

In regard to the relations between employer and employe, the speaker said that rapid progress is being made towards better mutual understanding. "Most employers," said the president, "now regard their employes as human beings, not merely cogs in a machine. The obligation of being considerate is mutual and is owed to the employer by the employe, as well." Continuing, Mr. Beyer spoke of the welfare work of the larger corporations, of the better and safer working conditions, pension funds, the establishment of rest rooms, libraries, gymnasiums, etc. Many of these activities, he said, were especially adaptable to the telephone companies, because of the close daily contact of manager and employes. The public, said the president, is the essential to be considered. It is the real employer.

He also spoke of the hazards of the telephone business, and the faithfulness of the operators and other employes in emergencies. The society and not the individual employe, or his dependents, he said, should bear the burden of industrial accident. President Beyer explained the Iowa workmen's compensation act, which has been in effect since last July and is working well. He also mentioned the Chase bill for increased compensation which is pending in the legislature.

The measures pending in the legislature, regulating the working hours of women employes and fixing a minimum wage, were then discussed, and the fallacies as regards the telephone business pointed out. Various other bills affecting the telephone business, such as assessments for public improvements, physical connection, construction standards, reducing the width of highways and a measure providing for enlarging the scope of the railroad commission were next discussed. The last mentioned bill provides that the railroad commission be given the same control over telephone companies as it now has over other common carriers. It authorizes the commission to fix rates, to prohibit discrimination, to prescribe uniform systems of accounting, to prevent unnecessary duplication of plants and empowers the commission to make physical valuations when necessary.

President Beyer spoke of the future development of the operators' and plant schools in co-operation with the Iowa State College. He advocated a wider use of the local papers in the matter of sane and useful publicity tending to better understanding on the part of the public. In his remarks, he also touched upon the subject of telephone securities as an investment and the question of government ownership.

In concluding his address, President Beyer spoke of the bright future for the telephone business. He said that it gives promise of healthy development along normal industrial lines. In improving the standards of construction and operation, the association is a useful clearing house of ideas and information. He mentioned the invaluable service tendered by J. Will Parry, who has supervised the extension work of the Iowa State College, which bids fair to increase in scope and importance from year to year.

### Report of Secretary Deering.

In his report, Secretary Chas. C. Deering, of Des Moines, stated that the receipts for the year were $3,962 and the expenses $2,099, leaving a cash balance on hand of $1,863. He reported that 20 applications for membership had been received during the year, and had been approved by the executive committee. These applicants were elected to membership by the convention.

H. B. Shoemaker, of Toledo, Iowa, chairman of the committee appointed to co-operate with the Iowa State College for the purpose of establishing a course of instruction for practical telephone men, reported that the college has taken a great interest in telephone work and will co-operate with the association in telephone education.

J. M. Plaister, of Fort Dodge, then presented a paper on "The Interstate Commerce Commission's Accounting System for Class C Companies." The speaker outlined the factors leading up to the Interstate Commerce Commission being empowered to standardize the accounting systems of telephone companies. He discussed the five general groups into which the accounts must be divided, namely, balance sheet accounts, plant and equipment accounts, income accounts, operating revenue accounts and operating expense accounts. The presentation of Mr. Plaister's paper was followed by a general discussion on the subject, in which all took an active interest.

F. B. McKinnon, secretary of the National Independent Telephone Association addressed the convention on the subject of "The War Tax." He explained how through national and state associations, the bill was amended so that the telephone user paid the tax instead of the telephone company. This, he said, was brought about through the co-operation of telephone men all over the country. This change to taxing the user, he estimated, saved operating companies something like $3,000,000 annually. Mr. MacKinnon then explained how the tax should be collected and remitted to the government and also how reports should be made. He read the law and explained its workings fully, including all the late rulings which have been made relative to it.

Following Mr. MacKinnon's address, E. B. Fisher, of Grand Rapids, Mich., president of the Independent Telephone Association of America, spoke on "Co-operative Operation." He cited the case of the war tax as an example of co-operating, as it was only through the co-operation of the various telephone organizations that the Federal war tax bill was changed so that the tax be paid by the telephone user, instead of by the telephone company. Mr. Fisher advised the strengthening of state associations, calling attention to the necessity of increasing the membership to include the majority of operating Independent telephone companies. Going back to early Independent days, he gave his audience some interesting telephone history, touching upon the fighting spirit of the old guard—the men who made the good fight in the time when the industry was young. He said relief would come to Independents through legislation, rather than through contracts. "If physical connection is desirable," said Mr. Fisher, "get it through legislation—it is not satisfactory through contract." "What the telephone industry needs," he concluded, "is potential competition."

P. C. Holdoegel, of Rockwell City, chairman of the business committee on legislation, told of the telephone development in the state of Iowa. He said Iowa had more telephones per capita than any other state in the Union—one telephone to every five citizens. This development, he said, should be conserved and only good legislation should be enacted. Mr. Holdoegel explained in detail the provisions of the Francis-Jones bill, which was also mentioned in the president's address. This bill places the telephone companies under the control of the railroad commission. The measure seems to have met with the approval of Iowa Independent telephone men.

Following Mr. Holdoegel's address, Miss K. M. Gang presented an exceedingly interesting paper on "The Telephone Operator," which was informally discussed by the meeting.

The following committees were then appointed, after which the Wednesday session adjourned:

Resolutions. M. H. Driftmeyer, John Stucker and E. H. Martin.

Nomination. O. L. Loudenslager, Chas. A. Long, J. S. Bellamy and E. E. England.

Auditing. J. M. Plaister, Frank Boardman, and H. C. Graves.

THURSDAY SESSION.

Owing to the program arrangement for the schools in the morning, the next session of the convention opened Thursday afternoon.

L. L. Hill, of Page & Hill Co., Minneapolis, Minn., delivered an illustrated talk on "Poles and Pole Preservation." The methods of cutting cedar, hauling and shipping it to the storage yard from the woods were clearly shown by means of a number of interesting slides. Cross sectional views were shown of various kinds of cedar so cut that the fibre could be distinctly seen and comparisons were made with the fibre of oak and pine. The value of preservative treatment of poles was then discussed by Mr. Hill.

C. Y. McVey, of Cleveland, Ohio, president of the National Independent Telephone Association, talked on the work which the association has planned for the ensuing year. He was followed by H. B. McMeal, president of TELEPHONY who pointed out the necessity for strong state associations.

The annual election of officers resulted in the selection of H. B. Schoemaker, of Toledo, as president, and Chas. C. Deering, of Des Moines, as secretary-treasurer.

The school for telephone plant men held six sessions, all of which were well attended. Great interest was taken in a demonstration of the use of instruments in testing and locating troubles. Line construction and circuits were explained and discussed, parts and models being used for illustration purposes. The students were given the opportunity to wire up the various circuits. The details of the construction and operation of the subscriber's instrument were taken up and methods of testing and eliminating trouble discussed. One session was devoted to the structure and manufacture of cable, and another to the switchboard and terminal room.

The operators' school in charge of Miss K. M. Gang, extended over a period of four days, March 9, 10, 11 and 12. The sessions were mainly devoted to instruction in local operating methods, phrases, voice control, cord and key handling, and long distance methods.

**Official Song of Missouri & Kansas Telephone Society.**

The official song of the Missouri & Kansas Telephone Society, at Kansas City, is rendered to the tune of "Get Out and Get Under," and has the following eloquent expression:

"Men of all stations and tongues of all nations
Burden the traffic all day,
We can't understand a word that they say;
It is amusing, it is confusing,
And it's a great wonder that we do not blunder,
For any numbers we check, a dozen times they say
Yes, yes, yes, yes.
At what they want we have to make a
Guess, guess, guess, guess.
Oh! serving men of all stations and tongues of all nations,
Is not what you call perfect bliss."

**Plucky Telephone Operator Saves Family from Fire.**

Miss Amelia Kallembaph, telephone operator at the Jeffersontown, Ky., exchange of the Cumberland Telephone & Telegraph Co., is credited with having saved several lives a short time ago when the house in which the switchboard is located took fire. Miss Kallembaph had stepped out of the building for a moment and as she turned back discovered the building was on fire.

She rushed through the smoke to the switchboard and aroused the nearby residents by ringing their connections on the board. Then she made her way upstairs to where Frank Fanelli and his family were sleeping and roused them in time to make their escape from their burning home. The building and the telephone equipment suffered considerable damage.

**Telephone Company Helps Solve Problem of Unemployed.**

The Central Home Telephone & Telegraph Co., of Louisville, Ky., has begun much earlier than it ordinarily would have done on a certain amount of underground construction work for the special purpose of furnishing employment to a number of the unemployed in that city. Just at present the work is being confined to conduit laying in an alley between Main and Market streets and east of Jackson street, into which four cables, now on poles, will be transferred.

Altogether about 50 men—laborers who had been unable to get work are employed on this job. The telephone company is at work on a number of specifications for other jobs which will be started as soon as practicable.

**Bell Long Distance Traffic Shows Marked Improvement.**

The long distance telephone traffic of the American Telephone & Telegraph Co., which for several months has been below normal due to the general business depression, has increased considerably during the month of February. According to the latest figures, the A. T. & T. Co. states, the traffic for the country as a whole, for the month of February, was considerably better than 100 per cent. In the Central West, the Northwest and in fact way through to the Pacific Coast, receipts were considerably better than 100 per cent. of normal. In the South and Southwest, however, the telephone traffic was not as good as in December.

# "Telephony's" Home Study Course for Telephone Men

*A Complete Presentation of the Principles Underlying Modern Telephony in All Its Branches—Arranged Systematically So That Regular Reading and Faithful Study Will Qualify Ambitious Men for Higher Positions—Prepared Under Supervision of Stanley R. Edwards—This Section Written by Paul Hamilton*

**Quiz Questions on the Preceding Installment.**

The answer to these questions will be found in the reading section bearing the same number. Answers are not to be sent to TELEPHONY for criticism. For the benefit of those desiring the advantages of a correspondence course, the Engineering Extension Department of the Iowa State College has volunteered to answer questions and criticize replies to questions and solutions of the problems which will be presented from time to time in connection with the course. No charge will be made for this service and the offer applies to all subscribers of TELEPHONY regardless of whether they live in Iowa or elsewhere. Correspondence should be addressed to the Engineering Extension Department, Iowa State College, Ames, Iowa.

59. Why is a gravity cell so called? Why should the Leclanche type of cell have an occasional rest?

60. What is local action and how is it caused?

61. What is polarization? How can it be determined? Will polarization and local action in a cell cause the same result?

62. Of what is the internal circuit of a cell composed?

63. What circuits are common to all batteries and how are external circuits classed?

64. How is the difference in potential between the two electrodes accounted for?

**Chapter IV. Elements of Magnetism.**

65. *Definition of magnet.* A mass of iron having an attractive relation to another iron mass is called a magnet. From this word as a base or root, the words magnetic, magnetism, and others are derived. All these words have reference to a quality of attraction between two bodies or substances. Frequently we hear of a person being referred to as a "magnetic person," which implies that he possesses a power of unusual attraction or influence over other persons. In telephony, the word is used in its real or normal sense with reference to the attractive influence or power of one iron formation over others, or to an attractive or repelling relation existing between them. In this connection steel and iron are the metals employed, but there are other substances which possess the quality. For instance the lodestone, which has been known almost since history began to be recorded, has this mysterious power of attraction. The lodestone is a peculiar formation of rock of an iron composition to a sufficient degree to retain this peculiar function almost indefinitely. However, the lodestone is not suitable for practical application of the attractive principles as required in telephony.

66. *Theory of magnetic attraction.* The quality or theory of magnetic attraction comes under the general head of magnetism. Outside of knowing that it is an energy or force, its exact nature is quite as mysterious as that of electricity. The effects of this potential energy, when applied in accordance with the principles derived from observation of its action, are so consistent and exact that

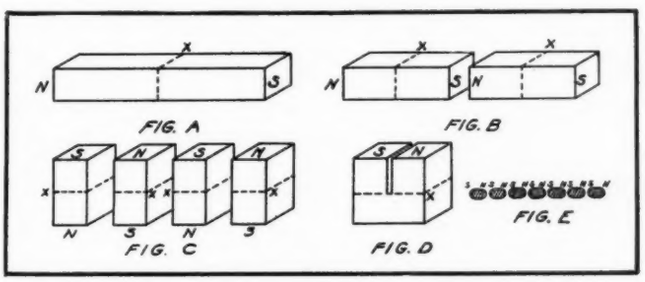



Fig. 17. Magnetism and the Poles of Magnets.

fixed laws have been evolved for its government and use. It is really more mysterious than electricity, as, for instance, it gives no impression to the human sense of feeling, the one sense which responds to electricity when applied with a certain degree of force. Its existence is determined entirely by its observable effect upon inanimate substances.

In the discussion of the theory, one can not hope to give information which has not been previously recorded. No marked advancement has been made in this respect in recent years. The relative conditions are accepted and the principles applied with regard to their economic value and usefulness in human progress.

The most common and simple form of substance in which this quality is found is in what is called a bar magnet, as shown in Fig. 17-*A* which is a representation of a steel ingot or bar. It has the quality of attraction for iron or compositions containing the ingredients of iron. This quality of attraction is more powerful—that is, it exerts a more pronounced force—at the ends of the magnet. These are termed poles and are designated north or positive, and south or negative, N and S being the common designations used for them.

As the strength is more pronounced at the poles, it therefore decreases in direct ratio toward the center, designated in Fig. 17-*A* by *X*. This is then, being the inactive point, termed the neutral point of the magnet. It is believed that the north pole of a magnet exerts a slightly greater force than the south pole. This fact, however, is as yet unexplainable. In Fig. 17-*B* the original magnet is shown as divided into two equal parts. This experiment causes the

formation of two magnets. The original poles remain unchanged, but two additional poles are added, making two magnets. The attractive power of the original magnet is likewise divided. In Fig. 17-*C* is shown a further division of the two magnets. Here a peculiar action takes place. The longest or longitudinal dimensions of the mag-

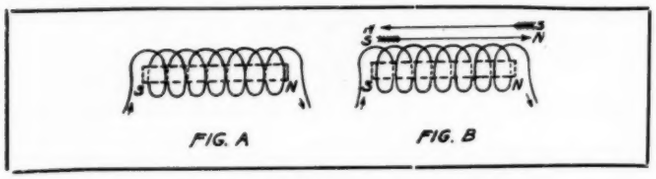



Fig. 18. Solenoids and Their Action.

nets are changed. The poles are no longer found at the point where they previously existed, but the neutral point is found there. The poles, or points of strongest attraction, are to be found on what was formerly the inactive side. This peculiar change takes place the moment the operation of separation is carried beyond the line of neutrality as shown in Fig. 17-*D*. Two poles, only, exist until the magnet is actually separated. As will be shown later, the work of separation must be carefully performed as under certain conditions of action, the magnetic quality will be destroyed.

The generally accepted theory of magnetic attraction is that of the arrangement of the atoms of substance. Presuming that the magnets, as shown in Fig. 17, be continually divided or bisected to the natural infinitesimal atoms or molecules of which the substance is composed, we would have as many separate magnets as there are atoms. If left free to act in relation to one another, they would arrange themselves as shown in Fig. 17-*E*. As the molecules are too small for observation, we must imagine their existence. Presuming they are again compressed into a compact mass, they will arrange themselves in such order as will form the original magnet. It must not be assumed that this is the method employed in the manufacture of magnets. We can comprehend the theory but must remember that the method of application to bring about such a result is impractical, if not impossible. The theory, however, should be understood as meaning that the molecules assume this arrangement, under the influence of the magnetizing method applied, to cause them to act in unison in the accumulation of potential magnetic energy.

It may seem at first difficult to imagine that the atoms or molecules of a piece of hardened steel can be caused to change their position with relation to one another. But, when it is called to mind that the atomic theory conceives all matter as composed of atoms, more or less capable of relative adjustment, we can comprehend that a re-arrangement of the atoms in steel is possible if the proper force is applied.

67. *The origin of magnetism.* It is not going too far, perhaps, to state that all metallic substances are subject to assuming a magnetic quality. It is observable, however, in but few substances, and there are fewer yet in which it is manifest to such a degree as to become a tangible and applicable source of energy. Of these substances, iron and steel are the only mediums generally used. In gold, silver, copper, brass and many other common metals, magnetic qualities are not manifest under any method of observation so far devised. The quality is noticeable to a slight degree in nickel and cobalt.

Until the researches of Faraday developed the existing relation between magnetism and electricity, by which magnetic energy could be accumulated by the application of current, the quality was only known to exist in the lodestone, which is called a natural magnet. If a lodestone is rubbed against, or in some cases merely brought in contact with iron or steel, the element thus treated becomes a magnet of great or less power and permanency as will be seen later. The lodestone is the original source in which magnetism existed.

If a piece of hard steel is rubbed vigorously against a lodestone, it will become possessed of the remarkable attractive quality of the lodestone itself. At the same time, the lodestone will retain its original strength. The lodestone may then be discarded and the steel magnet applied in the same manner to another piece of unmagnetized steel, resulting in the magnetization of the third body. Both pieces of steel will then constitute what are termed "permanent magnets." By this we mean that they will retain energy to attract other substances which are subject to this subtle force.

In the instance of the magnetization of steel, a variable lapse of time is required to accomplish the effect described. Eventually, however, the power displayed by the piece, to which the magnet is applied, will equal that of the original magnet if the conditions and dimensions are equal.

The different degrees of density or hardness determine the time required for a substance to become magnetically charged. If instead of applying steel to the magnet, soft iron is applied, the magnetic energy is imparted to it almost instantly. On the other hand, when the iron is removed from the magnet, it loses the energy of attraction it possessed while in contact with it.

68. *The solenoid.* The foregoing method of magnetizing, simple though it is, is of little practical use as the different purposes for which magnetic energy is applied today are innumerable. Faraday's discovery is the method upon which reliance is placed in practical application in telephony. The theory is illustrated in Fig. 18. In Fig. *A* is represented a coil of wire wound in a spiral form, all turns having the same radius and each turn separated or insulated from the others, making a continuous path for electrical current.

This arrangement is called a solenoid. It may consist of one or a plurality of spiral windings one upon another, or the terminals may be at the same end. The variation of the arrangement is in accordance with the result of accomplishment desired. If an iron core is inserted inside the windings, as shown by the dotted lines, and a current is directed through the windings, the iron core will become a magnet.

The polarity of the magnet, that is, the relative positions of the north and south poles, depends upon the direction of the current flow. The relation is similar to that of the current of a battery previously described. The direction of the current of the internal circuit of a battery is always

from the negative to the positive pole. In the solenoid, however, the south pole is not always the end of the core where the current enters the spiral, and the north pole at the end where the current leaves the spiral. Thus by reversing the direction of the current through the coil, the positions of the poles are reversed. With the current flowing through the coil as the hands of a clock move, the pole facing the observer is the south pole of the magnet.

This means of reversal is not as important a factor in telephony as may be at first imagined, as either a north or a south pole will attract non-magnetized elements, subject to the influence of magnetism.

Sometimes it is difficult to comprehend what is meant by "direction of the current." In Fig. 18-*A*, the spiral is turned around the core from left to right; in Fig. 18-*B*, this arrangement is reversed. If, however, the current enters at the same end in both cases, the poles of the magnet will be reversed. In the consideration of the solenoid, the direction of current does not always refer to whether it travels from right to left around the core; it may refer to its course in longitudinal relation to the core and the solenoid considered as a whole. Positive and negative currents have opposite effects.

Thus it will be seen that in the operation of relays, which operate on the principle of the solenoid, a reversal of the wires of the winding affects the magnetic action, for the entering and leaving points of the current are reversed; also to reverse the poles of the magnet, the solenoid may be subjected to a change of location in the circuit with relation to the battery poles. However as has been stated, as either magnetic pole exerts the usually required energy, this is a mattery of theoretical knowledge, rather than practical application.

69. *Permanency of magnetism.* A piece of hard steel is slow to respond to the application of means of magnetization, and when magnetized, retains its attractive energy indefinitely. In soft iron, the opposite is the case. It is quickly magnetized and loses its magnetic energy quite as readily. The application of the atomic theory permits of a possible reason for this.

Every coherent or solid substance is made up of particles, which possess a peculiar adhesive relation for one another. If the particles are drawn closely together, we have a non-porous and, usually, a hard substance. If their attractive quality does not knit them so closely together the result is a porous and, usually, a soft substance. In the case of pine or cedar wood formations, a soft wood is the result, while in walnut or hickory, hard wood is the result. Soft wood absorbs moisture more readily than hard and therefore is more porous. Hence we must assume that the material particles are not drawn as closely together. The relation between hard steel and iron is similar.

70. *The atomic theory of magnetism.* The atomic theory of magnetism is illustrated in Fig. 17-*E*. A possible result of these conditions may be as follows: In non-magnetized iron or steel the natural arrangement of the molecules is in accordance with their natural attractive relation for one another. This arrangement may be assumed to be irregular with regard to the longitudinal relation between them. In magnetized substances it is assumed that their arrangement is in longitudinal formation.

When magnetizing energy is applied, the molecules are forced to rearrange themselves end to end, so to speak. In soft iron, this action can be brought about more readily than in hard steel because the molecules do not exert as great a degree of attraction for one another and have infinitely more space in which to move. Therefore they respond quickly to the applied energy. But the moment it is withdrawn and ceases to exert control over them, their natural attraction recalls them to the natural and original arrangement. Thus they no longer exert magnetic pull or energy. Likewise in hard steel, the molecules are closely knit, and their natural attraction is greater in degree to retain them in a compact formation. In addition, they have less space in which to move. Greater opposition or resistance is exerted against the magnetizing energy, requiring a longer period for the accomplishment of its purpose. When, however, it is finally accomplished and the magnetizing energy is removed, the compactness of formation is as it was originally and their natural attraction does not as readily restore their molecules to the original formation.

This is further verified by the fact that a sudden sharp blow, or stroke, will destroy their magnetic power, as also will heating the magnet in a fire. The expansion of the material by heat permits a rearrangement of molecules affecting their longitudinal placement and, as they contract in cooling, the regularity of magnetic arrangement is lost.

The different degrees of hardness between soft iron and case-hardened steel respond to magnetizing influence in proportion to their degree of density or hardness.

Permanency, then, implies the length of time a magnetized substance will continue to exert magnetic force or energy.

*(To be Continued)*

[Author's Note: Attention is directed to Fig. 13-*A* published in TELEPHONY of February 27 which, through a draftman's error, shows dry cells connected in a series arrangement instead of a multiple-series arrangement. As shown the two sets of cells are short-circuited as the connecting wires extend from positive to negative poles throughout the entire group. It was intended to have two groups of four cells each connected in series and then to have the positive pole of each group connected to the same side of the line and the negative pole connected to the other side. Unfortunately, the unlike poles were shown connected to the same side of the line.]

**Financial Statistics of Telephone Companies.**

The statistics concerning the financial transactions of telephone companies collected for the United States census of 1912 were confined to the systems having annual incomes of $5,000 and over. As many of the telephone systems operate in more than one state, it was impossible to obtain separate statistics for the financial transactions in each state; therefore only the totals for the United States are shown.

In most of the tables presenting statistics for prior censuses the figures for 1907 have been readjusted so as to bring them into comparison with those for 1912. It was impossible, however, to readjust the figures for the census of 1902, therefore the data for that census are not strictly comparable with those for either 1907 or 1912. Table No. 1, however, gives the general totals for all systems at the census of 1902 in comparison with those for systems having annual incomes of $5,000, or

more, in 1907 and 1912. The net capital stock and funded debt are combined in the table to form the item of capitalization, which therefore does not include intercompany holdings, stocks and bonds of other telephone companies, or treasury securities.

While the figures for the different censuses given in this table are not strictly comparable, they indicate in a general way the increases in the financial transactions of the telephone systems of the country during the decade.

The income, assets, and capitalization of telephone companies for 1912 were almost three times as great as the amounts reported for 1902, and even a larger increase is shown for the expenses and fixed charges. This item, which includes interest, taxes, and depreciation charges, increased from $65,164,771 in 1902 to $203,754,909 in 1912, or 212.7 per cent. These figures, however, are not strictly comparable, inasmuch as charges for depreciation were not reported separately for 1902, while for 1912 the item of expenses and fixed charges includes the sum of $40,755,657. It is quite probable that at the census of 1902 such charges were included to some extent as an operating or miscellaneous expense.

The par values of the common and preferred stock and the funded debt, as well as the value of real estate mortgages, floating debt, and cash investment, were reported as separate items of liability. All these items should be considered in arriving at the capital invested in the telephone industry. The figures for the two groups of items are given in Table No. 2, for 1912 and 1907, and their sums may be accepted as representing the gross capital or investments at the close of those years for the companies and systems having annual incomes of $5,000 or more.

The cash investment was reported only for non-Bell telephone systems, and amounted to $3,287,138 in 1912 and $2,583,833 in 1907. This item represents to a great extent the original investment in systems operated by individuals, firms, and partnerships.

A number of telephone companies have invested in the stocks and bonds of other telephone companies, funds obtained from the sale of their own stocks and bonds. To ascertain the net capital invested in the telephone industry, cognizance must be taken of such investments in stocks and bonds of other telephone companies, treasury securities, investments in stocks and bonds of companies other than telephone companies, and holdings in other permanent investments.

A duplication appears in the statistics of capitalization to the extent to which the securities of certain telephone companies are owned by other telephone companies. For this reason in ascertaining the net capital chargeable to the telephone industry, the total amount represented by this duplication must be deducted from the total outstanding capital. Furthermore, some companies carry a part of their stocks and bonds in their treasuries as current assets. These stocks and bonds are regarded as issued and outstanding. They are in condition for negotiation and delivery without further action or authority on the part of the directors. Hence such treasury securities are to be deducted from the gross capital in determining the net capital.

| | 1912 | 1907 | 1902 | Per Cent. of Increase 1902-1912 | 1907-1912 | 1902-1907 |
|---|---|---|---|---|---|---|
| Income.. | $ 255,081,234 | $176,700,408 | $86,825,536 | 193.8 | 44.4 | 103.5 |
| Expenses and fixed charges.. | 203,754,909 | 135,475,177 | 65,164,771 | 212.7 | 50.4 | 107.9 |
| Assets... | 1,298,599,485 | 943,519,301 | 476,359,895 | 172.6 | 37.6 | 98.1 |
| Capitalization (net capital stock and funded debt)... | 948,829,883 | 722,647,075 | 372,218,407 | 154.9 | 31.3 | 94.1 |

**Table No. 1. Income, Expenses, Assets and Capitalization.**

A number of companies reported interests in stocks and bonds of concerns other than telephone companies, and many other investments of a permanent nature were also reported. The income from these investments is carried as separate items, hence the amount of such investments must be deducted from the gross capital to ascertain the net capital chargeable directly to the telephone industry.

| | 1912 | 1907 | Per Cent. of Increase |
|---|---|---|---|
| Capital stock and funded debt, total | $1,472,041,365 | $1,016,312,203 | 44.8 |
| Real estate mortgages, floating debt, and cash investments | 55,657,028 | 54,035,708 | 3.0 |
| Total capital | $1,527,698,393 | $1,070,347,911 | 42.7 |
| Deduct intercompany holdings and treasury securities | 523,211,482 | 293,665,128 | 78.2 |
| Net capital | $1,004,486,911 | $776,682,783 | 29.3 |
| Deduct investments outside of telephone industry | 62,090,435 | 25,255,951 | 145.8 |
| Net capital invested in industry | $942,396,476 | $751,426,832 | 25.4 |

**Table No. 2. Capital of Systems Having Annual Incomes of $5,000.**

Table No. 2 shows that the total capital of the telephone companies and systems that had annual incomes of $5,000 or more in 1912, irrespective of the character of ownership, amounted to $1,527,698,393. From this gross capital, there should be deducted $501,476,067; the amount reported as intercompany holdings, and $21,735,415, the amount of company securities held in their treasuries, leaving $1,004,486,911 as the capital invested or in the hands of the public. Of this sum, $62,090,435 was invested outside of the telephone industry and therefore did not form a part of the industry proper. Upon the deduction of this amount there remains $942,396,476 as the net capital of the industry.

The net capital invested in the industry increased by 25.4 per cent. during the five years from 1907 to 1912. The large increase in investments outside of the telephone industry, from $25,255,951 in 1907 to $62,090,435 in 1912, or 145.8 per cent., was due to the holding in the latter year by the Bell telephone system of large interests in the Western Union Telegraph Co., and to further holdings in the Western Electric Co., which may be termed the "manufacturing department" of the Bell system.

## Annual Report of Southern Bell Telephone & Telegraph Co.

The annual report of the Southern Bell Telephone & Telegraph Co. for the year ended December 31, 1914, shows net earnings of $2,747,422, representing an increase of $238,613 over the previous year. The net surplus for the year, $1,642,805, shows a decrease of $21,113. The income account compared with that of the year 1913, is as follows:

| | 1914. | Increase. |
|---|---|---|
| Gross revenue | $7,492,181 | $463,982 |
| Expenses, taxes, interest, depreciation | 4,744,739 | 225,369 |
| Net | 2,747,422 | 238,613 |
| Interest | 1,104,617 | 359,726 |
| Surplus | 1,642,805 | *21,113 |

*Decrease.

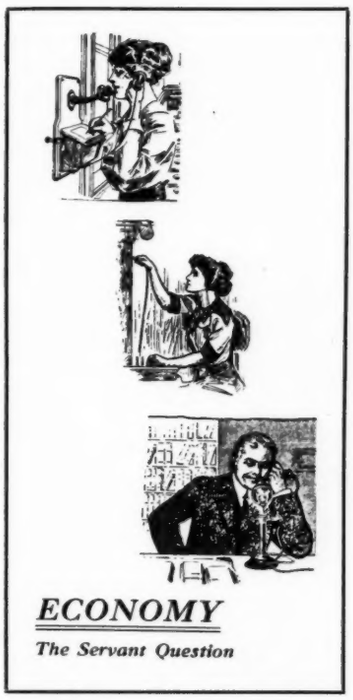
## Cut-Over to New Exchange at Binghamton, N. Y.

The New York Telephone Co. recently cut over 5,400 lines from the old switchboard in the Bell Telephone Building at Binghamton, N. Y., to the new $250,000 exchange on Henry street.

# Practical Subjects—Letters and Discussions

**Advertising the Advantages of Telephone Service.**

An attractive three-part folder, entitled "Economy—The Servant Question," has been issued by the Home Telephone Co., of Mobile, Ala., of which W. H. Bryant is vice-president and general manager. The circular is addressed to subscribers and is along the lines of educating the public to the value of telephone service, the need of which was shown at the recent convention of the Independent Telephone Association of America. On the front cover is featured the accompanying illustration, and on the back the exchange building of the Home company is shown.




Title Page of Mobile Folder.

The servant question, says the folder, is an ever-present problem to the householder. "To get a servant, polite, intelligent, willing and always on duty, night and day; who would instantly take orders to the grocer, the butcher, the baker, the drug store, the coal and wood merchant; who would call the doctor, the police or the fire department; who would make it possible for you to converse with your friends at all times; call you at any hour to administer medicine or get your train or boat and perform many other duties faithfully and well, was quite a problem less than 50 years ago. In fact it was impossible and the price of such service, if it could have been obtained, would have been within the means of only the very wealthy.

"This servant is today within the reach of even the poor—is the most economical, one can possibly employ, as the wages are as low as five cents per day. The Home Telephone Co. has made this possible and any citizen of Mobile can be thus served.

Can there be anything more economical than a Home telephone? And in these times when economy is so necessary, is it not a blessing indeed?

The Home Telephone Co., as is well known to all citizens of Mobile, is a creature of necessity. It was organized by our leading citizens 20 years ago, to protect the citizens of Mobile from the extortion of monopoly and to put telephones within the reach of all classes.

The Home Telephone Co. is a strictly 'Made in Mobile' product; its sole purpose is serving the people of Mobile.

Every dollar expended by the Home Telephone Co. is spent in Mobile, wherever possible, only going out of Mobile when it is impossible to obtain the article here.

Mobile merchants, printers, binders and supply dealers of all kinds get the benefit of the thousands of dollars expended by the Home Telephone Co., whereas the competitors of the Home Telephone Co. buy nothing in Mobile, all their supplies, printing, stationery, etc., being procured from Atlanta, Ga.

Therefore, Mobile People: Who should you support with your patronage?

The answer is obvious: You should support the company that makes business for Mobile merchants and keeps the money at home—support the Home Telephone Co.

We are sorry to say that there are a number of citizens of Mobile preaching daily 'Buy in Mobile,' who seem very active in advising others to 'Buy in Mobile' but who themselves are not on the list of subscribers of the Home Telephone Co.

Some merchants of Mobile are asking Mobile people to patronize them because they are Mobile institutions, when they themselves do not patronize the 'made in mobile' telephone.

This is not consistent because there is not an institution in Mobile today that has done and is doing more good for this city and the people therein than the Home Telephone Co. The very name implies Home Service, Home Origin and Home Institution."

The type used and its arrangement are such as to emphasize the various points presented. The folder is made so attractive that those receiving it are certain to read it and it should be productive of good results.

**Another Collection Letter and Scheme.**

In TELEPHONY of February 27, we noticed two letter forms for forcing collections. The form we enclose is more brief, and the points are presented in short, crisp, staccato sentences that are read as a glance:

Dear Sir:

Your telephone rent is long past due; balance now to April 1, 1915, is $7.40.

When you have a telephone you are in close touch with every activity of our city.

If you have anything to sell you can often close the deal without leaving your home.

When out of work people can reach you who have jobs they want done.

If an emergency, wife or child sick at night, you can reach the doctor and often arrange for their relief without the doctor calling in person.

The telephone is a protection and a necessity in our modern life.

Now when we call to your mind a few of the benefits we want also to remind you that these benefits ARE WORTH PAYING FOR PROMPTLY.

The above amount cannot be allowed to grow any larger; we must have your prompt settlement, *otherwise the service will be cut off March* 1, 1915.

Very truly yours,
The Warren & Niles Telephone Co.,
General Manager.

The last paragraph can be made a definite take-out notice by inserting a date, or merely a warning by omitting the date.

The form is printed and then filled in on typewriter.

Our rates are arranged to give a discount of 25 cents a month, and when a subscriber fails to take his discount we consider it a dangerous account, to be treated promptly and firmly.

Warren, Ohio. E. G. Miller, General Manager, The Warren & Niles Telephone Co.

THE EFFICIENT COLLECTOR.

Collector (on the first of the month): "Mr. Jones, I have your bill for telephone service to October first."

Mr. Jones: "Well, I'm a little short right now. Come next week."

Collector: "Let's see. Next Monday will be the 7th. Shall I make it the 7th?" (Prepares to make notation on Mr. Jones' bill, and lets Mr. Jones see him do it.)

Mr. Jones: "Here, wait a minute! Better make it Friday; I'll have some money coming in some time during the first part of the week."

Collector: "That's all right. I'll make it Friday, the 11th."

Mr. Jones: "Do you keep a record of what everyone tells you, who does not pay up?"

Collector "Yes, sir. I report to the office on all accounts." (Makes notation on the bill.) "By the way, Mr. Jones. you are at home so little during business hours that you are pretty hard to find. Would you mind stopping in at the office next Friday and leaving the money with the cashier?"

Mr. Jones: "Sure, I'll do that."

A week elapses. On the morning of the 12th the collector goes over his calendar list of payments promised on the 11th. Comparing them with the ledger, he finds that Mr. Jones has failed to show up at the office with the money. From his desk he calls up Mr. Jones, and the following dialogue ensues:

Collector: "Mr. Jones, this is the telephone collector. In going over our list of collections due, I notice that you forgot to come to the office yesterday, and I called to ——"

Mr. Jones (Angrily): "Now, look here, confound it, if I have to be called up every day or so and dunned for the rent on this blamed telephone, I guess you had better come and take it out."

Collector: "Now, now, Mr. Jones, I'm not dunning you. You told me last week that you wanted to pay Friday. When I noticed that you had forgotten to do so, I just called up to remind you of the fact. No harm done, is there?"

Mr. Jones: "Well, well, my memory must be failing. I certainly did promise to pay you Friday. That's all right. You just leave that bill there at the office and I'll stop by on my way to town in about an hour and pay it. Much obliged to you for reminding me."

And Mr. Jones pays. A little tact and a few telephone calls spent on the "good-pay-but-hard-to-find" customers, leaves the efficient collector much more time to devise ways and means of extracting money from the "poor pay" customers, whom, unfortunately, we have always with us.

The above is a little article I have written for the benefit of our managers and collectors.

Sherman, Texas. W. K. McQuown, General Manager, Associated Independent Telephone Co.

### Advertising Telephone Service in Local Newspapers.

The Athens County Home Telephone Co., of Athens, Ohio, recently utilized the columns of the Athens Daily Messenger for a quarter page display advertisement. Half of the announcement was taken up with the following:

Athens—A City of Modern Homes with the Four Necessary Conveniences:

Water for Sanitation and Fire Protection.

Gas, the Modern Fuel.

Electricity, the Servant of the Future.

Home Telephone, Indispensable Socially and in Business.

None More Important Than the Latter in Well Appointed Houses.

Following this announcement was a list of 50 names of new subscribers added to the service during the month of February. The names are arranged alphabetically and the telephone numbers given, so that subscribers may cut out and paste the list in their directories for future reference.

Featured in large type across the bottom of the advertisement are the following words: "Try Our Instantaneous Automatic Service to Columbus."

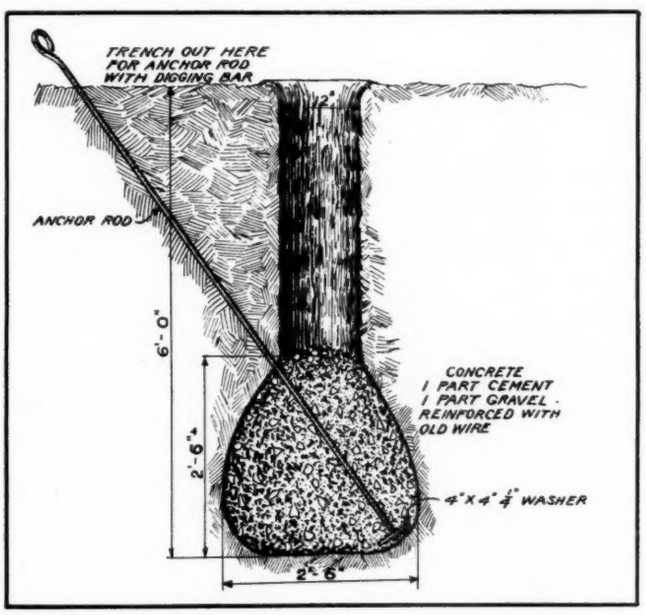
### Killing Two Birds With One Stone.

W. S. Duncan, who owns a farm about four miles southwest of Clinton, made an unusual demand of the Kinloch Long Distance Telephone Co. this week for clearing trouble on their line. Mr. Duncan was going out to his farm and saw a duck hanging by the head in "a cross" on the line 25 feet from the ground. He is an excellent shot, and with his rifle shot off the duck's head. The line cleared the cross out as the duck fell to the ground. It is needless to say that the Duncan family had duck for supper, and the division man was saved a long trip over the heavy road of snow and mud.

Clinton, Mo. S. T. Neill.

### New Use for Cement in Telephone Construction.

Several years ago we commenced to look around to find an anchor to take the place of the old style log, or what is known as the Dead Man, anchor for holding heavy corners




The Dead Man Concrete Anchor.

or guys for messenger work. After trying several methods, we installed one with concrete as shown in the sketch. This held so well and was so easily installed that we have been using them ever since for all strain from 10,000 pounds to 40,000 pounds.

For digging the hole we use a 12-inch post hole auger and enlarge the bottom part to about two or three feet in diameter with a digging bar, removing the dirt with a long handled spoon. The anchor rod, with a four-inch washer on the end, is then put in place and concrete, formed of five parts gravel to one part of Portland cement, is poured in to a depth of two or three feet, according to the load the anchor is to hold. This is left to set for about five days, then the rest of the dirt is filled in and the anchor is ready to pull.

Owosso, Mich. J. H. Britten.

### Extraordinary Case of Trouble.

At Waukegan, Ill., a four-party line was repeatedly reported as noisy, says a correspondent of The Bell Telephone News. On test it was found O. K.; also on inspection. A repairman camped on it for hours with no result. Finally one day while the tester was holding it on his board, it became grounded. A repairman was sent out and located the trouble at one party. When he reached the instrument, it was O. K.

On careful examination the repairman found that the furnace check chain ran down the same wall as the inside wire. He pulled out the inside wire and found that the chain had worn through the insulation. When the draft was on full. the chain was in contact with the bare wire—grounding the line. At any other position of the draft the line was clear.

The "ground" came in at a lucky time.

# Proceedings Before Commissions, Courts and Councils

## Discussions and Rulings of State Bodies Having Supervision of Telephone Companies, Decisions of Courts in Matters Affecting Public Relations of Utilities and Actions of City Councils Bearing Upon Franchises, Rates and Service

**New York Telephone Submits New Rate Schedule.**

The New York Telephone Co. has submitted to the New York Public Service Commission a new schedule of rates which, the company believes, meets the demands of the commission for reductions, estimating the reductions offered at $2,700,000 annually. The company's so-called accession to the demands of those fighting for lower rates came after protracted sessions extending over 19 months. The company's proposals include a five-cent interborough rate.

The Foley joint legislative committee, which investigated rates independently of the public service commission, has announced through its chairman, Senator Foley, and its special investigator, Professor E. W. Bemis, that the company's offer is not acceptable as it is, in the opinion of the committee, a reduction in actual telephone charges within New York City of $613,909 less than was recommended by the committee. In other words, according to the committee, the company's proposed reduction would amount to only $2,386,091.

The company's new schedule sets telephone calls from Manhattan to Brooklyn and vice versa at five cents, and from Manhattan to all the southern part of Staten Island at five cents. The calls between Brooklyn and most of Queens are set at five cents. The rate for individual line business and residence service in Manhattan and Brooklyn is cut from $48 a year for 600 messages, or eight cents a call, and to $42 a year for 840 messages, or five cents a message, additional messages up to 1,200 being at five cents each; from 1,200 to 2,400, four cents each; from 2,400 to 3,600, three cents each, and above 3,600 the new low price of 2½ cents is established.

Greater New York is divided into ten zones under the new schedule which include as "local" calls, a considerably wider area than the old schedule allowed. The schedule makes two-party line measured service available in zones in Manhattan and Brooklyn, starting at $36 for 720 messages, as compared with the present non-discountable rate of $42 for 600 messages, or five cents a call as compared with seven cents a call. The present rates for unlimited residence service applying in zones 4 and 5 in Brooklyn are continued under the new plan, and the residence subscribers are given the option of selecting the unlimited rates with the old local areas, or measured rates with the new and enlarged areas.

For switchboards of the monitor type of two stations and one trunk line, a rate of $132 for 2,400 local messages per annum is provided, as compared with the present rate of $204 for 3,600 calls and two trunks, or five and one-half cents a call, as compared with the present rate of six cents. The schedule of rates prepared by Professor Bemis called for a rate on these switchboards that would permit the charge of five cents to tenants.

The maximum rate between any two points in Greater New York is placed at ten cents. Where a five-cent toll charge is made for the subscribers who are already paying five cents on the call, the same call on a slot machine telephone for public use would require a ten-cent deposit.

John L. Swayze, counsel for the New York Telephone Co., in presenting the new schedule made the following stipulations: That the company's property be valued at $84,000,000 for rate-making purposes, instead of at $82,000,000, the valuation stipulated by the commission on June 30 last. That the return rate upon the valuation be placed at 8 per cent. That six months be allowed before the new rates take effect. That the final order provide that the rates remain in force for at least five years.

Judge Robert L. Luce, counsel for the Foley committee, announced that the committee would insist upon the Bemis schedule, taking the matter to the legislature if necessary. Professor Bemis said that a study of the company's new schedule showed that it would cut the rates only $2,386,091 annually. The company, he stated, asserted that indirect reductions of other rates resulting from the reductions made for New York City and increase of expenses would make the reduction aggregate $2,700,000.

"To refuse to make a reduction of $3,000,000 within the city," he said, "such as was demanded by the Foley committee, the company must not only show that it is entitled to a return of over 10 per cent. on its investment but that it will not get increased earnings from reduction of rates." He stated that the small user would suffer principally through the new rates; that it would be impossible for a small apartment house to give tenants five-cent calls and that subscribers having private residence telephones were made to pay for more telephone calls than they would have to use. The statement continued:

The committee provided that from no borough should the rate to or from Manhattan exceed five cents. The company makes it ten cents from Far Rockaway to the southern part of Staten Island. The proposed rate of five cents is raised to ten cents from the northern part of Staten Island to zone 2, which is the upper part of Manhattan and the lower Bronx. From the northern part of the Bronx to the southern part of Queens and to the Coney Island district, and vice versa, the proposed rate is also raised by the company's schedule from five to ten cents. These changes in toll rates amount to a total of $156,179 a year.

In Manhattan, the southern part of the Bronx, Astoria, Brooklyn, and Coney Island, the committee proposed to make to residences a $40 rate for a single party line with 800 messages. The company proposes $42 for 840 messages, but so many residences use less than 840 messages a year that this change alone involves an increase to small users of $61,000 a year over the committee's rate.

For individual lines, the Foley committee proposed that messages of over 1,800 and under 2,400 should be given at three cents a message. The company raises this rate to four cents a message. The above is in the borough of Manhattan, southern Bronx, Astoria, Brooklyn and Coney Island. A similar difference between the committee's and the company's schedules occurs in other districts involving $142,797 a year.

Another blow is given to the small individual user. During the past year he has been able to get an extension telephone for $5.40. The Foley committee left it at that figure. The company puts it back to $6 that prevailed before February of last year, when the company made its initial reduction of $2,000,000 a year. This adds $26,614 to the burdens of the small subscriber.

It was the intention of the committee to make the rate so low for owners of hotels and apartment houses that they could afford to furnish messages to their guests and tenants for five cents a message. The company, however, has destroyed the possibility of this in the majority of the apartment houses, particularly the smaller ones, by its proposed rates.

Regarding the company's stipulation of an $84,000,000 valuation for rate-making purposes, Professor Bemis said: "The company depends entirely upon the franchises it has received without the payment of a dollar, for its right to do business at all in the streets of Greater New York.

Within the limits of the city, it has built up a property which when new cost, including working capital, less than $70,000,000. Of this amount, nearly $12,000,000 was furnished by the subscribers under the guise of a fund to meet depreciation. Less than $60,000,000 has been furnished by the stockholders and bondholders, and some of that has come out of surplus earnings over and above good dividends.

"When the company asks for a return of 8 per cent. on $84,000,000, it asks for a profit of $6,720,000, or a return on its investment of over 10 per cent."

The valuation demanded, he said, is 29 per cent. more than the real investment. The company could reduce its rates $5,690,000 a year if it were content with an 8 per cent. return, keep for itself its excess payments to the American Telephone & Telegraph Co., and could "look forward to material increases of profits from the growth of business."

Union N. Bethell, president of the New York Telephone Co., issued a statement contradicting the findings of the Foley committee with regard to the company's proposed new schedules. He said the most accurate estimate of the reduction possible was $2,700,000 a year and not $2,386,091 as Professor Bemis claimed. He indicated that the company would fight the Foley committee schedules in the court if necessary.

"Professor Bemis calculates the cut under the company's schedule at only $2,386,091," said Mr. Bethell, "stating, however, that there may be an additional net loss of from $100,000 to $200,000 because of items not heretofore considered by him. This makes from $2,486,091 to $2,586,091 against the company's claim of approximately $2,700,000. In an estimate of this kind, covering so many factors, a variation of 10 per cent. either way would not be unreasonable. Therefore the difference between Professor Bemis's estimate and our estimate is not very surprising after all. It is very significant, however, that within ten days, items previously overlooked have been discovered which amount to somewhere between $100,000 and $200,000.

"While a fairly accurate estimate can be made of the items of loss, based on statistics showing present traffic, it is impossible for anyone to accurately compute all the losses that may be involved because of the many changes made in the basic units. For instance, there are changes made in the minimum annual rate to be paid by the subscriber; the allowance of messages which he may send for that minimum rate; the rate per message at nearly every point in the schedule and particularly the classification of messages, a great volume of traffic being changed from toll to local, much of which will fall within the minimum allowance and be carried practically without loss to the subscriber and without producing any additional revenue to the company."

### Consolidation of Dual Telephone Systems at Ottawa, Kans.

The Kansas Public Utilities Commission has granted a certificate of public convenience and necessity to W. P. Hemphill to conduct a general telephone business in Ottawa, Kans., under the name of the Kansas Telephone Co. The Kansas Telephone Co. has also been authorized to purchase, consolidate and improve the telephone plants now owned and operated at Ottawa and vicinity, by the Kansas City Long Distance Telephone Co., and the Missouri & Kansas Telephone Co.

The new corporation has been authorized to issue $140,000 of its 20-year 6 per cent., first mortgage bonds, $61,000 of which are to be delivered to the Kansas City Long Distance company in payment for its property and $50,000 to the Missouri & Kansas company in payment for its system in Ottawa, Kans. The Kansas Telephone Co. is given one year by the commission in which to complete the consolidation, reconstruction and improvement of the two exchanges. During the period of consolidation and reconstruction, the commission has ordered that it be allowed to operate both of the exchanges separately and to collect for the service of each exchange at the rates now being charged.

Upon the consolidation of the two telephone plants and the rebuilding and construction so that the consolidated plant shall be a full metallic, central energy, modern plant, capable of giving efficient service in the city of Ottawa and vicinity, the company shall be authorized to file with the commission the following schedule of rates:

| | |
|---|---|
| Single line business telephones | $3.00 per month |
| Single line residence telephones | 1.50 per month |
| Four-party line residence telephones | 1.00 per month |
| Farm line telephones | 1.00 per month |
| Installation charge (farm line telephone) based on distance from exchange. | |
| City rental accounts to be payable monthly in advance, by the fifteenth of the current month. | |
| Hotel P. B. X. trunk lines | 36.00 per annum |
| Hotel P. B. X. telephone, wiring owned by subscriber | 3.00 per annum |
| Extension bells, business | 1.80 per annum |
| Extension bells, residence | 1.80 per annum |
| Extension gongs | 3.00 per annum |
| Extension sets, residence | 6.00 per annum |
| Coin collected (on private telephone) | 3.00 per annum |
| Local exchange calls from pay station, maintained by the company (three minutes) | .05 each |
| Extension sets, business | 9.00 per annum |
| An additional charge of 25 cents per month will be made for each one-fourth mile or fraction thereof where an extension is located more than 150 feet from main telephone or upon separate premises. | |
| Public schools, religious institutions, and lodge halls (not including club rooms) | 1.50 per month |

All of the above rates are for wall telephone instruments; where desk telephones are installed instead of wall, an extra charge will be made of $3 per annum.

A charge to cover the actual cost of moving telephones will be made if the instrument has not been in continuous service for one year or more at its present location.

### City of Redding, Cal., Must File New Complaint.

The city of Redding, Cal., was caught napping by the state railroad commission and the Pacific Telephone & Telegraph Co. on March 1, the date set by the commission to hear the complaints made by the city September 10, 1914, that the telephone rates in Redding were excessive.

Railroad Commissioner Alex Gordon, the commission's rate expert, A. T. Wilson, and ten officials of the telephone company assembled at the city hall at the appointed hour, prepared to take up Redding's complaint.

City Attorney Braynard, saying he did not have any evidence in hand, owing to confusion in the date set for the hearing, asked for a continuance. Commissioner Gordon would not entertain the motion. He said the only thing to do was to drop the case and let the city begin all over again. Thereupon City Attorney Braynard asked to withdraw the complaint. This he was allowed to do.

### Discrimination in Toll Charges in Kentucky.

The jurisdiction over telephone companies conferred on the Kentucky Railroad Commission by act of the legislature in 1912 is limited to requiring physical connection between exchanges in the same towns or cities and preventing discrimination practiced by a receiving exchange in failing to give the patrons of the connecting originating exchange the service it gives its own patrons. This is the ruling of the commission in a recent case in which the Glasgow (Ky.) Home Telephone Co. complained that G. T. Tucker's exchange at Cave City charged its patrons toll, while giving the Gainesboro Telephone Co.'s patrons free service.

Chairman Laurence Finn held that while the constitution of the state, section 199, may have intended that the

legislature should enact a law so comprehensive as to prohibit discrimination between originating companies practiced by a receiving exchange, the legislature had failed to give the commission such authority. The commission could not grant the relief asked for, but it may be able to reach the same end in another way through its supervisory authority over the division of tolls in such cases. The Glasgow company was given leave to amend its petition so as to raise the question of the reasonableness of the tolls charged it by the Tucker exchange.

**Hearing on Accounts Before the Interstate Commission.**

On March 4 a hearing was held before the Interstate Commerce Commission, at Washington, D. C., as to whether the Interstate commission should modify its order to common carriers in regard to systems of accounts so as to permit those carriers to keep special and additional accounts as prescribed by state commissions.

Under the law giving the Interstate Commerce Commission control over common carriers, it is provided that when the Interstate Commerce Commission shall have prescribed systems of accounts for any of the common carriers, it shall be unlawful for those common carriers to keep any other accounts. As is well known, the various state commissions, from time to time, have ordered the keeping of accounts different from those prescribed by the Interstate Commerce Commission. Especially is this true in regard to the accounts of telephone companies. The telephone companies and all other common carriers were, therefore, confronted with being violators of the law, if they obeyed the orders of the state commissions.

Certain railroad companies filed complaints with the Interstate Commerce Commission asking for a ruling on the point of their being allowed to comply with the state commission orders. The public utilities commissions of New York, Wisconsin and other states intervened and asked that an order be issued authorizing common carriers to keep the state accounts in addition to, or as modifications of, the Interstate accounts.

The hearing, therefore, in brief, was for the purpose of determining the necessity of a rigid uniform accounting system not subject to modification by the state authorities, or the desirability of a system permitting modifications. The telephone companies were especially interested because of the fact that on January 1, 1915, there went into effect the order of the Interstate Commerce Commission prescribing the system of accounts for Class C companies, of which there are over 3,000 in the United States. As the majority of state commissions which have control over telephone companies have each adopted a system of accounts for telephone companies different from those of the other states, these Class C companies found themselves under orders from the Interstate Commerce Commission to keep one system of accounts, and from their state commission to keep another and different one. The necessity of uniformity is apparent and, therefore, at the hearing in Washington, on March 4, the representatives of the two national associations appeared in behalf of the telephone companies in opposition to the issuance of any order which would do away with uniformity, and in support of the issuance by the Interstate Commerce Commission of an order requiring uniformity and which will not permit modifications by the state commissions.

On behalf of the National Independent Telephone Association there appeared Secretary F. B. MacKinnon, of Washington, D. C., Le Roy Parker, comptroller of the Ohio State Telephone Co., and E. A. Howard, auditor of the Consolidated Telephone Co. of Pennsylvania. The Independent Telephone Association of America was represented by Attorney E. E. Clement, of Washington, D. C., and H. Linton Reber, of St. Louis, who also appeared in behalf of the Kinloch Telephone Co., of St. Louis. The Wisconsin Railroad Commission, which is advocating a system of accounts different from that adopted by the Interstate Commerce Commission, was represented by Carl D. Jackson, a member of the commission. Mr. Jackson did not oppose uniformity but represented very strongly the position of the Wisconsin commission in regard to the necessity of modifications in the Interstate systems of accounts for telephone companies so that the accounts would be kept by exchanges, as is now required by the Wisconsin commission.

After the arguments had been submitted and briefs filed, Chairman Harlan of the commission announced that the matter would be taken under consideration and a decision rendered later.

The discussions put forth by the representatives of the telephone companies and state commissions proved that there is a demand in some quarters for a change in the Interstate accounting systems and that this demand is so strong that the Interstate Commerce Commission will, in all probability, be asked to give a hearing to the state commissions to consider the question of modifying the Interstate accounts.

**North Dakota Physical Connection Bill Approved.**

Senate bill No. 139, known as the Englund bill, which provides for the placing of telephone companies under the control of the board of railroad commissioners, has been approved by the governor. Under this law the board is given authority to compel physical connections between telephone systems, and to regulate rates and charges of such companies.

**Summary of State Commission Hearings and Rulings.**

CALIFORNIA.

February: The commission has extended the time within which the Pomona Valley Telephone & Telegraph Co., of Pomona, Cal., may sell $100,000 of its 6 per cent. bonds to February 28, 1916.

February: Application filed by G. Warren, owner of the Cambria Telephone Co., of San Luis Obispo county, Cal., for permission to transfer his system to A. F. Paterson.

March 1: At the hearing in the complaint of the city of Redding, Cal., vs. the Pacific Telephone & Telegraph Co., alleging excessive rates, City Attorney Braynard, saying that he had no evidence on hand, asked for a continuance. This the commission refused to do, stating that the only thing to do was to drop the case and file a new complaint. Attorney Braynard accordingly withdrew the complaint.

March 2: Hearing in regard to application of the Weed Lumber Co. to sell its telephone exchange at Weeds, Cal., to the Pacific Telephone & Telegraph Co.

ILLINOIS.

March 2: At a hearing in the case of the city of Peoria, Ill., vs. the Central Union Telephone Co., the telephone company was given until November 1 to prepare for an inventory and adjustment of rates. The company has agreed to erect a $150,000 exchange and to expend $500,000 in improving the plant.

March 4: Houston Telephone Co., Golden, Ill., given permission to change rates.

March 4: The following telephone companies were given permission to change rates in order to eliminate discrimination: Central Illinois Independent Telephone Co., at La Salle and Marshall; the Pike County Telephone Union, at Carmi; Orion Telephone Exchange Assn., Orion; Washburn Telephone Co., Washburn; Albany Telephone Co.. Albany; Barna Telephone Exch.. Barna; Egyptian Mutual Telephone Co., Temple Hill; Harrisburg Independent Telephone Co., Harrisburg, Ill.

March 4: Agreement between the receivers of Central Union Telephone Co., and the Newton (Ill.) Telephone Co., to operate their lines in connection with each other, approved.

March 4: Agreement between receivers of Central Union Telephone Co. and William T. McNeall, Columbus, Ill., for the sale by the Central Union company to Mr. McNeall, of a pole line and grounded iron wire circuit, approved.

March 4: Agreement between receivers of Central Union Telephone Co., and Robert Hood, of Payson, Ill., for the sale

by the former to the latter of a pole line and grounded iron wire circuit extending beyond the village, approved.

INDIANA.

March: Application filed by the South Bend (Ind.) Home Telephone Co. for permission to issue $1,500,000 in bonds, part of which will be used in making improvements and acquiring other telephone plants in St. Joseph county.

KANSAS.

January 18: Western Kansas Telephone Co. authorized to sell its plant and property from Syracuse, Kans., west to the state line of Colorado, in Hamilton county, Kans., to B. I. Wells.

January 20: Complaint of the Northeastern Kansas Telephone Co. vs. the Hiawatha Mutual Telephone Co., both of Hiawatha, Kans., dismissed.

January 22: Application of the New Haven Telephone Co., of New Haven, Kans., for permission to discontinue its telephone line running from Haven to Yoder, Kans., denied, and the case dismissed. The commission, however, granted the applicant permission to file an amended schedule of rates providing for a rental of $3 per month for business telephones and $1.50 for residence telephones.

January 22: In the complaint of the Farmers Mutual Telephone Co., of Rome, Kans., vs. Chicago, Rock Island & Pacific Railway, the commission ordered that the railroad company be required to continue and to maintain the use of a telephone of the complainant in its depot at Wellington, Kans.

January 27: Application of William Murdock, owner of the Clyde Telephone Co., for permission to sell his telephone plant and property at Clyde, Kans., and vicinity to D. Oelkers, granted.

February 12: Application of J. E. Parker for permission to sell to the Victor Telephone Co., of Victor, Kans., his telephone plant and property at Hunter, Kans., granted.

February 12: The commission granted the application of the Bison Telephone Co., for permission to sell to J. W. Buxton and C. C. Bieber, its telephone plant and property at Bison, Kans.

February 12: The Victor Telephone Co., of Victor, Kans., authorized to issue an increase of its capital stock to the amount of $4,000.

February 15: Application of A. J. Hiltgen for permission to sell his telephone plant, known as the Kimeo Telephone Co., which operates in Washington and Clay counties, to L. J. Hoover, granted.

March 1: M. E. Mitchell, owner of the Morland Telephone Co., authorized to sell his telephone plant and property at Morland, Kans., to Roger R. Gillham.

March 1: D. Oelkers, owner of the Clyde (Kans.) Telephone Co., authorized to issue notes, secured by mortgage, to the amount of $11,000.

March 1: The Kansas Telephone Co. authorized and permitted to transact business as a public utility at Ottawa, Kans., and vicinity. The Kansas Telephone Co. is further authorized to purchase the properties of the Kansas City Long Distance Telephone Co. for $61,000 and the properties of the Missouri & Kansas Telephone Co. for $50,000.

March 9: Hearing on application of the Missouri & Kansas Telephone Co. for permission to increase rates at Parsons.

March 12: Hearing in regard to the complaint of the telephone company at Mahaska, Kans., vs. the Narka Telephone Association; in reference to an adjustment of toll charges.

March 13: Hearing on application for the approval of the sale of the Independent Telephone Co. at Ozawkie, Kans.

March 18: Hearing in regard to application of the Arkansas Valley Telephone Co. for permission to increase its rates at Great Bend, Kans.

March 23: Hearing on application of the receivers of the Baxter Telephone Co. for permission to increase its rates at Baxter Springs, Kans.

March 25: Hearing in regard to application of the Spivey Telephone Co. for permission to increase its rates at Spivey, Kans.

March 26: Hearing at Kiowa, Kans., on application of the Hartner Rural Telephone Co. for a certificate of authority to transact business as a telephone company.

April 1: Hearing on application of A. J. Stephens for permission to lease his telephone plant at Horton, Kans., to the Northeast Kansas Telephone Co., which also operates a telephone plant at Horton, and to consolidate the two plants and fix rates.

MARYLAND.

March 17: Hearing on investigation of the rules and practices of the Chesapeake & Potomac Telephone Co., in Maryland.

MICHIGAN.

March 3: Complaint filed by the Camden (Mich.) Rural Telephone Co. and the Reading (Mich.) Central Telephone Co., against the refusal of the Michigan State Telephone Co. to give the Camden company Independent telephone communication with the city of Hillsdale and elsewhere throughout the state over the circuit via Reading.

MONTANA.

February 26: In the complaint of the Shields Valley Commercial Club, the commission has ordered the Mountain States Telephone & Telegraph Co. to improve the physical condition of certain lines in the Shields River Valley, Park county, and also to file, within 30 days, a schedule of rates, non-discriminatory. That portion of the complaint having to do with toll rates from Livingston to points in the valley, was dismissed by the commission.

NEW YORK.

March 12: Hearing in regard to complaints of Daniel Edwards, Nathan D. Griffin, the city of Johnstown, N. Y., et al., against the rates of the Glen Telephone Co.

OHIO.

March 4: Ohio State Telephone Co., of Columbus, authorized to purchase all of the properties and assets, including franchise, rights, accounts, contracts and privileges of the Akron (Ohio) People's Telephone Co.

April 20: Hearing in regard to the protest of the Lima, Ohio, city council against the rates, service and legality of the Lima Telephone & Telegraph Co.'s action in raising its charges above those specified in the franchise ordinance of 1895.

OKLAHOMA.

March: Complaint filed by Independent companies of Oklahoma alleging that the Pioneer Telephone & Telegraph Co. has been making threats of disconnecting its toll lines from the switchboard of the Independent companies if certain contracts are not signed by them.

PENNSYLVANIA.

March: The commission has approved the application of the Central District Telephone Co. for permission to make a lease with the Bentleyville (Pa.) Telephone Co. for the using of a building.

March: Application of the Central District Telephone Co. for approval of a lease for rooms by S. K. Bailey in Titusville, Pa., granted.

March: Application of the Bell Telephone Co. of Pennsylvania for approval of a lease between it and the Leroy (Pa.) Telephone Co. permitting the latter company to make certain attachments to poles in Bradford county, granted.

March: Application of the Bell Telephone Co. of Pennsylvania for approval of the sale to D. E. Sell, agent for East Freedom service of East Freedom subscribers, of poles, cross arms, etc., granted.

WASHINGTON.

May 15: Hearing on the valuation of the properties of the Pacific Telephone & Telegraph Co. in the state of Washington. On the valuation to be fixed, as a result of this hearing, telephone rates, both for exchange and toll service, will be based for all parts of the country.

WISCONSIN.

March 11: Hearing in regard to application of Eagle (Wis.) Telephone Co. for authority to increase local toll rates between its different exchanges and to declare each exchange of the telephone system a unit for the purpose of local toll charges.

March 11: Hearing in regard to the investigation, on motion of the commission, of rates charged for toll service over the lines of the Barnes Telephone Co., and the Iron River Telephone Co. of the inadequacy of service of the Barnes Telephone Co. and failure of the Iron River Telephone Co. to give Service. U.—748.

March 11: Hearing in the case of F. W. Samels, et al., vs. the Eau Claire Telephone Co., Hawkins Telephone Co., Wisconsin Telephone Co. and the Chippewa Valley Telephone Co. U.—729.

March 11: Hearing in the case of the Rusk Box & Furniture Co. vs the Hawkins Telephone Co., Wisconsin Telephone Co., Chippewa Valley Telephone Co. and the Price County Telephone Co. U—751.

March 16: Hearing in regard to the application of the Oxfor & New Haven Independent Telephone Co., Ltd., for authority to increase rates. U.—752.

March 17: Hearing in regard to application of the Cameron (Wis.) Farmers Telephone Co. for authority to increase rates, tolls and charges. U.—761.

March 18: Hearing in the case of Wm. Anderson, et al., vs. the Pierce County Telephone Co. U.—746.

March 23: Hearing in the case of the Western Crawford Farmers Mutual Telephone Co. vs. the Union Telephone Co. U.—755.

# Local Telephone Operating Rules and How Developed

A Serial Story Dealing with Local Operating Terms and Rules—Reasons for Their Use—A Real Study of Rules Beginning with Fundamentals and Developing All Essential Factors in Operating Room Practice, for Both Small and Large Exchanges

By Paul Hamilton

"Just where did we leave off in our deliberations?" Mr. Telson inquired, as the conferees convened after lunch.

"We were discussing the disposal of valuable property while on duty," Miss Floyd replied.

"The lost, strayed and stolen column," Mr. Burke remarked.

"We might say that operators will assume entire responsibility for the care and custody of their miscellaneous valuable belongings, such as money and jewelry," Mr. Carney volunteered.

"We might add that the management will lend any aid in its power toward the recovery of articles lost on the premises, but assumes no definite responsibility for such losses," remarked Miss Sible.

"My suggestion is that we merely caution the operators and make no definite assertions," said Mr. Burke. "How would this be? 'Operators are cautioned with reference to the care and disposal of valuable belongings, such as money, jewelry, etc. Losses of this nature often reflect upon the integrity of an associate, whose guilt or innocence cannot be readily established. The management cannot assume any responsibility for the safe-keeping of valuables, and can only exert the ordinary means at its command in the investigation of such losses. Due consideration and care in this particular will serve to prevent misunderstandings and personal losses.'"

"Mr. Burke's suggestion covers about every angle of the case," observed Mr. Prince, "but I think the sentence about 'guilt and innocence' is rather vague."

"Well," began Mr. Burke, "the circumstances surrounding such cases generally lack substantiating facts. In other words, the evidence is usually entirely circumstantial."

"Then perhaps we ought to manage to say so," was the reply.

"'Operators on duty are cautioned relative to the care and disposal of valuable belongings,'" Mr. Burke repeated. "'Owing to the fact that the information relative to lost articles is often indefinite and circumstantial, the integrity of an associate may be unjustly questioned.

"'The management cannot assume any responsibility for the safe-keeping of such valuable property, and can only exert the ordinary means at its command in the investigation of reports of such losses. Due consideration in this regard, on the part of the operators, will serve to prevent personal losses and disagreeable misunderstandings.' Will that convey all the instructions desired in connection with the question?"

"How about it, Miss Floyd?" Mr. Carney remarked. "This was your subject."

"As fas as I am concerned, you might leave it out entirely," was the answer. "I am sure that my operators understand my view of the matter quite thoroughly since my recent experience."

"What will be our next endeavor?" the chairman inquired.

"Burke rather put one over on me the other day," said Mr. Carney, "but I am going to put one over on myself now. One day last week I was away from the office, and returned about three o'clock. The chief operator had been away for three days also, and had not yet returned to her post. When I entered the operating room I found an informal luncheon or tea party in full swing. I guess it could be called an afternoon tea. There must have been twenty or more guests. Refreshments were being served, and a general good time going on all around. Investigation showed that it was another case of omission of explicit instructions, or any instructions, in this particular case. None of the operators had ever been advised that the operating room should not be used as a place for entertainments."

"I don't know that my operators ever had any instructions along that line, either," conceded Miss Sible, "yet I don't believe they would take the liberty without asking permission."

"You may be closer in touch with their social ambitions than we men folks," Mr. Carney answered. "It wouldn't have occurred at Princeville, either, if the chief operator had been on duty. The operator serving in her place, while in every way efficient, did not realize what was going on."

"I see no harm in inserting an item along that line," said Mr. Burke. "How shall we go about it?"

"We can say that the operating room is not to be considered as a place for the entertainment of friends and acquaintances," volunteered Miss Floyd.

"Why not say that the exchange premises are not to be used for entertainment purposes?" suggested Mr. Prince.

"For social or business purposes," Mr. Carney added.

"Why not say," Mr. Burke remarked, "'The exchange premises are not be considered at the disposal of the operators for social or business engagements, except in connection with the conduct of the affairs of the exchange. Friends and acquaintances should not be invited to visit the operating room without the consent of the manager or chief operator first being secured.'"

"But there are exceptions to a rule like that," Miss Floyd argued. "For instance, a subscriber will sometimes ask permission of the operator to come and see 'the wheels go 'round.'"

"We might add then," said Mr. Burke, "'Patrons requesting permission to visit the exchange will be referred to the manager or chief operator.'"

"And in a majority of cases they won't make the same request of either," Miss Floyd responded.

"So much the better," Mr. Burke replied. "In such cases the request is not a legitimate desire to see the exchange, but more liable to have been prompted by the hope of getting personally acquainted with the operator. It is a very satisfactory way of disposing of such inquiries. If the patron has a real desire to see the exchange he will be more than pleased to make his request of someone in authority."

"How about persons coming to the exchange and requesting to see certain operators?" Miss Sible inquired.

"I don't think that can be included under this heading at all," Mr. Carney replied. "There are instances, of course, where visitors present themselves and inquire for an operator. One can usually determine whether the case is one of such importance that an interview should be granted. Bill collectors and solicitors will generally reveal their mission if questioned. Where the request is made to me I usually determine whether the business of the visitor is of such importance as to warrant the operator being relieved from her work to confer with him."

"Do you give out the operators' addresses, and tell where they live, indiscriminately?" Miss Floyd inquired.

"No, I do not," replied Mr. Carney. "I give out no information with reference to them which may be considered of a personal nature. This is merely a reciprocation of what we require of them."

"Well, what shall we do about the 'odds and ends' who present themselves at usual and unusual hours?" Mr. Burke inquired.

"Who ever heard of people being referred to as 'odds and ends?'" questioned Miss Floyd.

"It has been my misfortune," Mr. Burke responded. "It has been my lot to travel some, into the far and out of the way places of the world. Some years ago I made a pedestrian tour of some of our Southern states. It was about the time of the awakening of the movement for the education of the colored race. At one place I noticed a large, new, shed-like building, and inquired what its purpose might be. I was told that it was the assembly hall for the entertainment of the colored population of the community when lecturers were sent to enlighten and entertain them. I proceeded to investigate further by going to the building.

"I found the custodian, a genial sort of a colored man, about three shades off color. He was pleased to escort me through the place. At one end was a speaker's stand, much higher than I had ever before seen, or since, for that matter. The portion assigned to the audience was divided into three pens or compartments, separated by partitions at least five feet high.

"Upon inquiring as to the meaning of this arrangement, I was informed that the front compartment was assigned to those of the higher degree of culture and intelligence; the second to those who displayed sufficient attention and interest to entitle them to consideration, and that the third and last compartment was assigned to 'the odds and ends that didn't count for anything.' So it occurred to me, as we have considered the more important class of visitors—those who can be classified, so to speak—the balance might be called 'odds and ends.'"

"Very well classified," Mr. Carney remarked, "but I don't see that we can do anything for them in the way of advertising in the instruction to our operators."

"I agree there," said Mr. Prince. "All the instructions we might write will not prevent them from opening the door and coming in whenever they take a notion. I think we have given the operator enough instructions to prevent prearranged visits of either friend or foe."

"Then let us devote our attention to another topic," said Mr. Telson. "Who has a suggestion?"

"I can suggest a little one," Miss Floyd responded. "Mail should be addressed to operators at their home addresses. Letters are liable to be mislaid and lost. Anyway, her mind should not be diverted from her work in the expectancy of the arrival of the mail."

"As for that, letters are sometimes directed to the exchange, because the writer does not know the operator's home address," remarked Miss Sible.

"Well, why not re-address them and turn them back to the office?" suggested Mr. Telson.

"Or hold them until she goes off duty?" offered Mr. Prince.

"And then forget them entirely," added Mr. Burke. "I prefer Mr. Telson's suggestion."

"W might suggest that all mail should be addressed to her home or some place other than the exchange," said Mr. Carney.

"Well, then, how will this answer?" volunteered Mr. Burke. "'Operators will not consider the exchange as their mail address. Letters received at the exchange will be forwarded to her home address.'"

"Yes, but she does not always want her letters sent to her home when she is not there. I know girls," said Miss Sible.

"We cannot take that into consideration. If she knows they will be sent to her home she will be careful that none of important privacy reach the exchange, which is the object we desire to accomplish," Mr. Carney answered.

"There might be exceptions," commented Mr. Prince.

"They will be hard to prove at this time," said Mr. Telson. "What next?"

"How about presents, such as candy, etc., from subscribers?" Miss Sible inquired.

"In my estimation," said Mr. Prince, " a subscriber does not, as a general practice, send presents to operators unless he expects a reward in the way of special attention or service from them. Except at Christmas and New Year's, I do not approve of accepting them, and make it a practice to return them if they come into my hands, and I can determine where they came from."

"How about birthday presents?" questioned Miss Floyd.

"Well, unless a subscriber is a close personal friend of the operator, he is not supposed to be on such familiar terms as to find out the date of her birthday. If he is a close friend, he surely knows her home address and should send his remembrance there," was the opinion of the chairman.

"I think we might go further than Mr. Prince goes," argued Miss Sible. "We can say that operators must refrain from accepting favors from subscribers that will place them under obligations."

"That is plausible, as her obligations, while on duty, involve the management to some extent," responded Mr. Burke.

"Well, there are some exceptions to that also," said Miss Floyd. "For instance, I worked at an exchange once where one of the girls saw from a window what she thought to be a fire on the roof of a factory, several blocks away. She reported it at once to the fire department, and prevented a serious loss by so doing. The owner of the factory came up the next day and gave her $25."

"In that case, of course, she could not be denied the privilege of accepting the gift. The service had nothing to do with the business of the exchange and perhaps it did enough for the management in the way of advertising to have warranted her another $25 from the company," said Mr. Burke. "However, we might say: 'Operators will refrain from accepting gifts or favors from patrons of the exchange which will place them under obligations as representatives of the company. They will not render any special service to patrons without the consent and direction of the management.'"

"Why not make it all one sentence by substituting the word 'or' for 'they will not'?" suggested Mr. Carney.

"No objection on my part," Mr. Burke replied.

"That addition covers a good point, I think," said Mr. Prince. "Operators sometimes do give special attention and service to certain favorite subscribers, and that will be a warning against so doing. It is difficult to discipline an operator who thinks she has been doing something for the company's interest in the way of giving special attention to a patron. That is the view they generally take when the matter of special service is taken up with them. With that rule in force, she will not have so reasonable a defense."

"What next can we improvise for the general good of the cause?" Mr. Telson asked.

"Well," began Miss Sible, "how about telephone calls for operators in person?"

"Except on matters of importance, they should be denied her," responded Mr. Prince.

"Who is to determine how important they are?" Miss Floyd inquired.

"The chief operator should be able to do so. If the message is important, the sender will usually give it to the chief operator, and she can decide whether the operator should talk in person. There are lots of foolish people who misjudge the importance of what they have to communicate—'one idea people' I call them. Just one thing in their mind at a time, and they must get rid of that before another idea can get a foothold. Only last week a call was referred to me for one of the operators. Her mother was calling. Finally I called the operator to the desk and allowed her to speak for herself. All in the world the mother wanted to say was that she had just received a fashion plate by mail, and there was such a pretty hat pictured in it that she thought she ought to call up and tell the girl not to buy one until she had seen it. The operator did not waste much time over the matter, and told me what the important matter was, saying it was 'always that way with mamma.'" This from Mr. Prince.

"In my opinion, the point can be covered in this way," said Mr. Burke. "'Personal calls for an operator at the exchange will be referred to the chief operator who will determine as to their disposal.'"

"Does that please everyone?" Mr. Telson inquired.

"I'm satisfied," said Mr. Carney.

"And the others may as well be, for I am going to disband the session for a few minutes," he announced.

The interval was spent in the operating room, observing the operation of a visual signal, common battery board, recently installed.

As the session again convened, Mr. Telson made his usual inquiry as to the topic for discussion.

"If it will not be considered out of order, I would like to inquire as to the array of manicurist's implements lying upon the key shelf," said Mr. Prince.

"I presume the ladies, or either one of them, can enlighten the inquisitive gentleman," Mr. Burke observed.

"They are very useful, as well as necessary, in their proper place," Miss Sible remarked, "but I agree with Mr. Prince, who has intimated that possibly their proper place is not on the key shelf."

"I noticed a great, big letter 'N' scratched on one of the varnished panels of one position," said Miss Floyd. "Perhaps that is what a nail file is used for."

"In my opinion such articles, and I will add pencils to the list, do not belong on the switchboard. The use of pencils should be confined to the positions where their use is necessary," said Mr. Hussey.

"Aren't pencils always necessary? The operators have to make out trouble tickets, do they not?" Mr. Burke inquired.

"Not in our exchange," responded Mr. Hussey. "All trouble tickets are made by the chief operator, or the subordinate in charge. The operator reports the trouble to her over a desk line, or connects the person giving the report to the desk. Pencils are an abomination. If you had fished as many pencil points out of jacks as I have, you would all agree with me that their elimination from the board is a great advantage."

"Perhaps," said Mr. Carney, "the proper place to make reference to such a rule will be in connection with the operator's position and her conduct while in the position.

"Anyway, it appears to be the sense of the meeting that fire-arms and other weapons, offensive and defensive, be excluded from the operating room. Now is there anything we can add to our list of generalities?"

"I noticed, Mr. Telson, that the color scheme of the dresses worn by your operators is rather striking and not at all in accordance with my idea on the subject of dress for the operating room," said Miss Sible.

"What are we going to do?" was the response. "Have them wear uniforms?"

"No. But there is a happy medium between low-neck, short-sleeved, cast-off party gowns and uniforms, in good, comfortable, serviceable, well-appearing, everyday dresses," Miss Sible replied.

"Can we go so far as to dictate as to what they shall or shall not wear?" Mr. Burke inquired.

"It has been done in many places with good results," was the reply.

"But doesn't it really work a hardship?" asked Mr. Burke. "Girls must wear out their old dresses which are out of style for public exhibition."

"In practice, it works for economy," Miss Sible maintained. "Dresses made from flimsy, fancy, light material don't last any length of time when put to the hard wear and strain while operating a board. It is only a matter of postponing the purchase of a durable dress for a few days at most."

"And, too," said Miss Floyd, "there is always a rivalry among the girls and the first thing you know the operating room is a fashion exhibit."

"I guess the ladies are too many for you on that question," said Mr. Prince, addressing Mr. Burke.

"Well then, we will let them have their say, and formulate a rule covering the case," Mr. Telson ruled.

"Perhaps we can rise to the emergency," Miss Sible replied. "I would say: 'While it is not the intention of the management to insist upon uniformity in the manner of dress, it is desirous that operators should avoid any ostentatious display, and confine their tastes to modest, comfortable styles of neutral or sober shades, preferably dark.' Adherence to this suggestion will be found to work for their comfort and economy."

"If there are no dissenting voices, the suggestion is approved," came from the chairman.

"In our general instructions we have not mentioned the manner of addressing patrons," said Mr. Prince. "I do not mean the exact phrases to be employed, but the manner and tone to be cultivated."

"Courtesy is a very important requirement," Mr. Carney remarked.

"I do not mean courtesy exactly," Mr. Prince replied. "What I mean is perhaps more clearly explained in this way: Suppose an operator answers a call and the subscriber fails to comprehend her reply. Her first impulse is to raise her voice, which is wrong in practice. Instead, her second effort should be to add distinctness to her words instead of volume to the tone. In the first instance, the subscriber is too often off the line of thought; that is, his mind is fixed upon what he intends to say to the party he is calling. The operator's words, spoken quickly, as they usually are, even though it is a fixed and customary phrase, are not caught by his understanding for an instant—not because they are not distinct, but because of his inattention. When he asks her to repeat, he will be more attentive and if she is more careful as to articulation, the result will be satisfactory and eliminate the chance of an unintentional display of discourtesy on the part of the operator, which is the natural result of raising her voice and losing control of accent, emphasis and inflection."

"I see some reason in your idea," said Mr. Carney. "Perhaps we can devise a general rule, and take up the matter of accent and inflection in detail later on."

"Perhaps we had better let it go over to the next meeting," said Mr. Telson. "It is now nearly time for the north bound express."

"Can't we go by the parcel post, if we prefer?" inquired Mr. Burke. *(To be continued.)*

# From Factory and Salesroom

Convention: North Dakota, Grand Forks, March 24, 25; Eastern Pennsylvania, Harrisburg, April 7, 8

### More Corwin Traffic Figures.

Supplementing the time study figures which appear in the February 27 issue of TELEPHONY and emphasizing the ease with which accurate figures of this nature may be obtained in the Corwin semi-automatic telephone system, additional figures are presented which will undoubtedly prove of interest to every engineer and operating man.

Considering time actually consumed by an operator in receiving and building each connection—that is, including all time an operator has to spend before she is ready to receive another call—the following are actual averages, which have been obtained in the Corwin system now operating at Fort Wayne, Ind. The accuracy of the figures is vouched for by the Frank B. Cook Co., which manufactures this system:

Operator's building time (mixed traffic) per connection, 3.9 seconds.

Operator's building time (local traffic) per connection, 4.4 seconds.

Operator's building time (mixed traffic—busy hour) per connection, 3.76 seconds.

It has always been difficult to obtain reliable information indicating the period of time for an hour during which an operator was actually employed. In the Corwin system, these figures are obtained very readily. Averages taken over a considerable period of time showed that the operators average better than 70 per cent. busy, the actual figures being:

Operator's busy period each hour (8 a. m. to 8 p. m.), 72 per cent.

Operator's busy period busy hour, 80 per cent.

### Garford Equipment to be Installed at Pilot Grove, Mo.

The Pilot Grove Telephone Co., of Pilot Grove, Mo., recently placed an order with the Garford Mfg. Co. of Elyria, Ohio,

**Garford Magneto Board for Pilot Grove, Mo.**

for a new central office equipment. The switchboard, which is shown in the accompanying illustration, is of the No. 9 magneto type. It has two operator's positions and has a capacity for 200 subscribers' lines. The switchboard is equipped with a total of 30 cord circuits.

### Monarch Exhibit at the Iowa Convention.

The Monarch Telephone Mfg. Co., of Fort Dodge, Iowa, occupied two prominently located rooms in the Chamberlain Hotel, Des Moines, during the convention of the Iowa Independent Telephone Association, held this week. A very complete line of Monarch switchboard and telephone equipment was on exhibit. This was the ninth convention attended by the Monarch company this year, and at almost every one of these meetings the Monarch exhibit has included a switchboard made up and sold to some telephone operating company in the vicinity.

The Iowa convention was no exception, as a 300-line switchboard made up for the Central Mutual Telephone Co. of Rockwell City, Iowa, was on exhibition and created a great deal of interest owing to the fact that it included the latest features of arrangement and equipment. Immediately after the convention this board was shipped to the Lohrville exchange of that company, where it will be installed. When the installation is completed, the Central Mutual company will have a Monarch switchboard in each of its six exchanges, Rockwell City, Lake City, Pomeroy, Manson, Jolley and Lohrville.

The Monarch exhibit also included a small floor type switchboard, which can be arranged for 50 or 90 lines. This has been a very popular type for small exchanges, the company states.

The new No. 430 residence type magneto telephone met with the favor of the delegates present, as the instrument takes up but very little wall space and yet the parts and the cabinet are arranged so that every connection and every piece of apparatus can be inspected without the slightest difficulty. A new telephone bulletin No. 27, which includes illustrations and a description of this telephone, as well as all other Monarch magneto sets, was distributed at the convention. Copies will be mailed to those interested upon request.

### Equipment Trust Certificate Finance Applied to Telephones.

Many years ago the railroads of this country were confronted with a greater demand for rolling stock than their treasuries could provide. The original plan of finance did not contemplate this item which bears so close a relationship to railroad traffic.

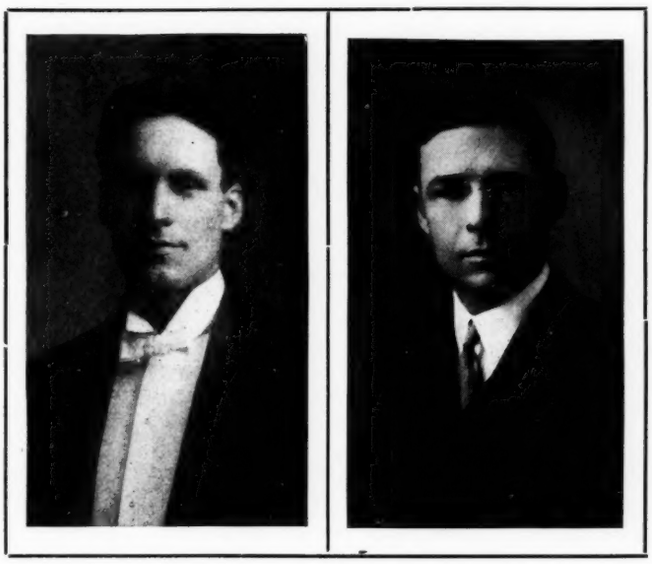
The idea of a railroad security in those days, particularly referred to opening up a new country. Land grants, franchises, rights of way and a slim roadbed with a train or two a day, constituted their reliance in the securities. The railroad industry had its paying and non-paying properties, just as the telephone industry does today. Another parallel in both industries is the prospective earning value. In the railroad industry the railroad magnate is the man who, forseeing these prospective values, stepped in when the securities were a drug upon the market, and taking the management, made the enterprise realize those prospective earnings.

Finding the railroad property bonded up to its limit, and a poor market for remaining issues, if any existed, many schemes were tried out to secure new capital with which to purchase rolling stock to care for the increased business created by the magnate. Some were good for the investor, but bad for the railroad, and some worked for a short time in the reverse direction. At last, however, the method became standardized to the "Car Trust Certificate," whereby a railroad could use more cars than it could afford to buy.

After many years of litigation and use of the method, nearly all state legislatures passed laws legalizing this method of railroad finance. Today "Car," or "Equipment Trust Certif-

cates" are claimed to have the best position of any short term bond on the investment market. The method of procedure is as follows:

A railroad company has a growing traffic and can employ profitably 1,000 new freight cars. A car manufacturer takes the order agreeing to accept a percentage in cash and the bal-



Chas. Hall. W. N. Winter.

ance in notes at 6 per cent., having as collateral the one thousand cars, the title being held in trust until the notes are satisfied. These notes are issued in small denominations, in a series running for a period of from one to five years, or even longer, the interest and portions of the principal falling due on given dates at the place of business of the trustee.

The railroad company figured in advance what the earning of the cars would be, making an allowance for repairs and all the other factors entering into the transaction. When the last note is paid, the cars stand on the books as an asset and furnish added security to the underlying bonds and stock.

The car manufacturer accepting the notes disposes of them through his bankers. The latter find a ready market for them as they are perfectly good 6 per cent. securities, guaranteed by the railroad company, the car manufacturer, and, in many cases, by the broker making the sale to the investor.

State and interstate regulation now affects both railroad and telephone utilities, assuring reasonable rates to the producer. This is another element of stability which has a strengthening effect upon such securities.

The telephone equipment trust certificates plan was tried out at Hood River, Ore., January 15, 1913, when the local telephone company purchased renewal equipment for its central office. An automanual switchboard was purchased from the North Electric Co., of Cleveland, Ohio, for the sum of $11,025, $2,756.20 being paid in cash, and the balance by ten notes, each in the sum of $868.88, falling due consecutively in six-month periods, July 15 and January 15 of each year for five years. The North Electric Co. found a ready market for these securities with its brokers, Otis & Co., of Cleveland, Ohio.

The Hood River Company has unerringly met the interest and principal obligations under these notes. It reports that the economy of operation of the new facilities has easily covered these payments. The company officials are, as a result, enthusiastic advocates of this plan for financing. Otis & Co. are also encouraged by the showing made by the Hood River company, and are confident that further financing of this character will be negotiated in the future.

The extension of this plan to substation equipment is claimed to be thoroughly practical. As there is the possibility that the provision of this portion of telephone plant may be shifted to the consumer, as is the practice in other public utilities entering the premises of the patrons, it might be found more desirable in some communities to restrict the equipment trust certificate issues to central office purchases only.

The effect of the equipment trust certificate upon bonds should not be detrimental. Upon stock issues it is contended that the effect is undoubtedly good, as it is an indication that the earnings will be increased and also the plant value as well. Many telephone companies are carrying a contract waiting list with plenty of line capacity, but no switchboard or instruments. To these companies, the Hood River success may prove a valuable suggestion.

In speaking of railroad magnates, it may be well to mention the two men at Hood River, Ore., who have made their success in the telephone business and are expanding their influence rapidly. They are Charles Hall, former president of the Home Telephone Co. of Hood River, and now owner of the Marshfield and other Oregon telephone properties, and W. N. Winter, formerly superintendent of the Home Telephone Co., and who was recently placed in the presidency of the Oregon-Washington Telephone Co.

Mr. Hall entered the telephone industry as an adjunct to his real estate and orchard growing business, but the Hood River company soon developed to proportions which required practically all of his time. He became an active element in state telephone matters and is today one of the widely known telephone men of the Northwest.

Mr. Winter became interested in the telephone industry while engaged in power and lighting engineering in Utah. His company purchased a 50-line automatic intercommunicating system, and without any former experience, Mr. Winter installed and placed the plant in successful operation. From that date the telephone has taken his whole interest. From engineering to general superintendence, and recently to the presidency of his company, is a career which any young man may be justly proud of.

**Stromberg Equipment for New Rochester Exchange**

The Rochester Telephone Co., of Rochester, N. Y., recently placed an order with the Stromberg-Carlson Telephone Mfg. Co., of Rochester, for a complete central office equipment for its North West exchange. The equipment consists of a 6,000-line switchboard with 1,000 lines equipped, together with the necessary automatic trunking equipment to take care of traffic conditions. For handling the additional business from the branch exchange two 15,000-line sections will be added to the main exchange. The Rochester Telephone Co. has recently erected an attractive building to house this equipment.

**Promptness of Garford Company in Filling Fire Order.**

The exchange of the Local Telephone Co., of Berlin Heights, Ohio, was recently destroyed by a fire which nearly destroyed the entire business section of that town. At 8:30 a. m. on the morning following the disaster, an order was telephoned to the Garford Mfg. Co., of Elyria, Ohio, for a new switchboard. The complete equipment, including arrester rack and frame was shipped by express the same afternoon—just five hours after the receipt of the order. This enabled the company at Berlin Heights to restore its service with but a few hours' interruption. The Garford company is to be congratulated upon its promptness in handling this emergency order.

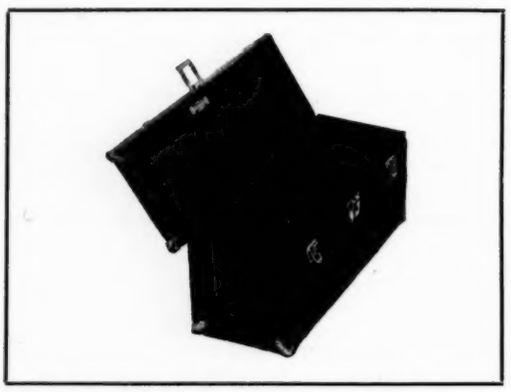
**Meeting of Directors of Utilities Indemnity Exchange.**

At the annual meeting of the directors of the Utilities Indemnity Exchange, of St. Louis, Mo., held recently, complete and detailed statements of the affairs of the company and its progress for the past year were carefully considered.

The suggestion was made by Lynton T. Block, president of the exchange, of the desirability of having an individual act as attorney for subscribers and as manager of the exchange rather than the present plan of having the Utilities Service Co., which is a corporation, act in that capacity. To overcome the objections to the present policy, as set forth, the directors voted to substitute Lynton T. Block as attorney for the subscribers and manager of the exchange in place of the Utilities Service Co. The advisory board states that the substitution of Mr. Block for the Service company involves no change and in no way affects executed contracts, as the relations of the parties necessarily remain undisturbed.

### Tool Kit Placed on Market by Kennedy Mfg. Co.

The Kennedy Mfg. Co. of Chicago, manufacturer of all steel tool kits, has recently placed on the market a tool kit or grip especially adapted to the needs of telephone linemen and electricians. The kit has a divided spacing at one end for a blow torch and, as shown in the accompanying illustration, it is provided with a tray with various sized compartments for carrying drills, bits, small parts, etc. Ample space is provided at the bottom of the grip for carrying heavy tools and material. In addition to the leather handle, the case is fitted with loops at each end for straps to pass under the case and over the shoulder, for carrying heavy loads. The contents of the tray cannot spill, as a flat top fits flush to its top.



Tool Kit Showing Removable Tray.

This tool kit is made in three sizes: 19 in. by 9 in. by 8 in.; 21 in. by 9 in. by 8 in. and 24 in. by 9 in. by 6 in. The latter size has a tray adapted to accommodate a bell hanger's bit. These kits are made to stand hard usage, being double seamed, electrically welded and reinforced throughout. They are fitted with Yale locks, solid brass catches and corner irons.

Descriptive literature will be sent to those interested, upon application to the Kennedy Mfg. Co.

### Paragraphs.

THE GENERAL INSULATE CO., of Brooklyn, N. Y., has moved its Chicago office to Room 526, 9 S. Clinton St. Its telephone number is Main 3748. F. Steinberger is still in charge of the company's Western branch.

M. S. VAN VLEET, advertising manager of the Stromberg-Carlson Telephone Mfg. Co., of Rochester, N. Y., was a visitor at TELEPHONY'S offices this week. He stated that last week was the biggest week in the past two years in orders for new equipment and additions. Mr. Van Vleet was en route to the convention of the Iowa Independent Telephone Association, which was held at Des Moines this week.

### Keystone Conduits Leased to Lighting Company.

The Keystone Telephone Co., of Philadelphia, Pa., has leased to the Philadelphia Electric Co. its unused conduits for a period of 21 years, with the privilege of renewals.

By the terms of the lease, the rental will be small at the beginning, but will increase gradually until a minimum of $100,000 per annum is reached. For the second period of 15 years, the minimum rental will be $100,000, and for the third period, the minimum rental will be $125,000 per annum. At the end of the second period the Philadelphia Electric Co. has the option of purchasing conduit space in use by it at a price to be fixed by arbitration, but if for any reason the option purchase cannot be exercised, then the privilege of renewing the lease as stated may be availed of by the Philadelphia Electric Co.

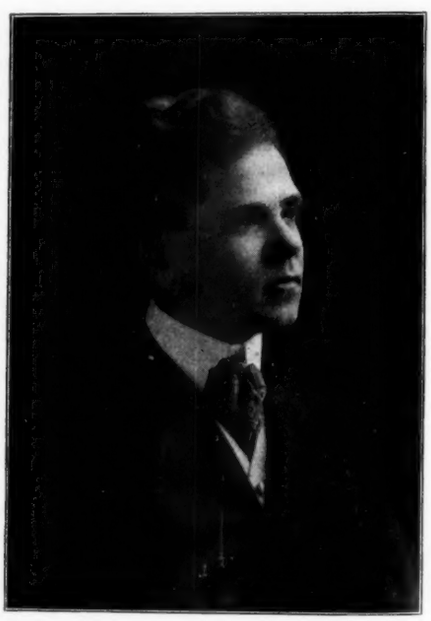
The rental will be four cents per duct foot and as there are 12,300,000 duct feet, there is a possible maximum rental of $480,000 per annum if the requirements of the Philadelphia Electric Co. shall grow so that all available space shall be utilized by the lessee. The average minimum return on the minimum basis for the first period of 21 years to the Keystone company will be $87,500 per annum.

The lease is so drawn that the rights of the public as to service expected from the Keystone Telephone Co. will be respected, as the Keystone company may retain such space in the conduits as its own business will require.

The ordinance granting the privileges of the streets to the Keystone company contained a provision that the company should not sell the conduits, but there is no restriction on its ability to lease such part of them as it does not need for its own purposes.

### F. R. Parker Back in Independent Practice.

Frederick R. Parker, of 3003 North Whipple Street, Chicago, the well-known patent attorney and telephone engineer, has resigned his position with the Western Electric Co., where he has been employed for over two and one-half years on special engineering work, to resume his patent practice and development work. Mr. Parker has specialized along the lines of electrical protective apparatus and telephone systems and apparatus for a number of years and has added materially to the development of these arts. It is now his intention to complete a large amount of this work which he has had under way for some time, and also to aid telephone men in connection with developing and procuring patents on their ideas.



F. R. Parker.

Mr. Parker has the reputation of securing exceptionally broad patents and of producing exceedingly simple and efficient devices. It is understood that he has many surprises in store in connection with a number of his developments, which are being covered by broad patents.

Mr. Parker states that he shall be very glad to give assistance to telephone men in any way possible, to help them solve their problems and give them protection on their ideas.

## An "Advertise It Now" Movement

That's a fine idea our Western friends are boosting—the "buy it now" plan.

But in sales and advertising circles I consider that the words need translation—they should read *advertise it now.*

My own say-so about this has the support of an international financial authority, Roger Babson. He makes clear that advertising is more foresighted if it is done for a cycle of time in advance, and if the slack time is made the signal not to cut but to add to advertising pressure.

*Advertise it now!*

It's when the factory needs work that advertising is an investment to prevent loss on fixed charges. When a factory, like Ford's, is choked with orders, then, like Ford, it's not poor business to slacken advertising. Certainly Ford, as well as the manufacturer without orders, who both quit advertising, can't both be right.

A reserve fund or new capital to build a new factory or raise salaries is not nearly so important as a reserve fund or new capital to invest in advertising during lean times. At such times it bears a double value—increased power during special need for the present, and increased pull for future good will.

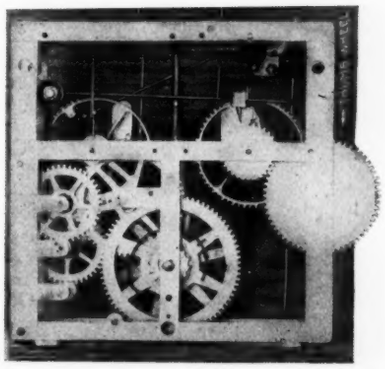
*Advertise it now!*

Every factor is primed now to institute a movement nation-wide among business men to recognize the inevitability of returning prosperity on a large scale and the definite profit which flows from prior start in establishing good will.

I warn everybody that two years from now the greatest swarm of advertisers ever known will be tumbling all over themselves.

*Advertise it now!*

*Reprinted from an editorial, February issue —Advertising and Selling.*

**The Hull Signal Selector and Lockout Device Has Proved that it is possible for a "lockout system" to give *20th Century Service***

This system was evolved after the most careful refining and developing as well as after a study of all other types. *Provides secret selective service without displacing any of present equipment.* No additional batteries required; no relays or solenoids needed.

Operates perfectly on grounded circuits. If desired, will accommodate 20 stations on a line.

Operated by the use of polarized ringer coils connected in multiple with main circuit and using a source of alternating current for signaling.

Factory facilities will soon be such that we can cope with the demand and we ask our good friends to be patient with us until we are able to deliver in larger quantities.

**The Hull Signal Selector Company**

**General Offices - - - Mack Bldg.**
**Denver - - - - - Colorado**

# Condensed News Reports

**Officers of Companies Are Urgently Requested to Forward to Us Promptly All Financial and Other Statements as Soon as Issued and Any Items of Interest as to Their Plants and Systems**

### Personal.

V. W. DEIST, of Madison, Wis., has been appointed manager of the Wisconsin Telephone Co., at Baraboo, succeeding Oscar Quale, who has been transferred to Reedsburg, Wis.

C. L. HARVILL, of Greensburg, Ky., has been made manager of the Milton ,Ky., exchange of the Cumberland Telephone & Telegraph Co., succeeding V. C. Harmon, resigned.

HENRY OLDFATHER, who for the past years has been manager of the People's Mutual Telephone Co., of Silver Lake, Ind., has sold the largest share of his interest and will retire from active service in the company. Mr. Oldfather was organizer of the company and under his direction and able management, the company flourished and has been a good paying investment.

JAMES T. DANIELS, of Columbus, Ohio, has been appointed traffic superintendent of the Ohio division of the Central Union Telephone Co., to fill the vacancy caused by the death of F. W. Whitten. Mr. Daniels has been connected with the Central Union company for about 15 years and since 1912 has held the position of special agent in charge of collection and accounting methods in Ohio.

### Obituary.

B. J. THROOP, for the past 25 years associated with the Bell Telephone Co., of Canada and for many years manager of the Hamilton, Ont., exchange, died recently at the Grace hospital in Toronto. Mr. Throop was made manager of the Hamilton exchange in 1891, in which capacity he served until about two years ago when he retired from active business on account of his failing health. Mr. Throop was a member of the Telephone Pioneers of America.

### New Companies and Incorporations.

MACY, IND.—The Citizens Telephone Co. has recently been incorporated with a capital stock of $15,000 by the following: T. Y. Savage, Otto Cloud and M. Cloud.

MONGO, IND.—The Mongo Mutual Telephone Co. has filed articles of incorporation with a capital stock of $2,100. The incorporators are: S. D. Lowe, J. P. Hann and W. L. Butcher.

WHITTEMORE, MICH.—The Reno Farmers' Telephone Co. has been incorporated with a capital stock of $1,500. The incorporators are: Mark Robinson, B. V. Dyke, G. M. Bemis and Sherman Johnson.

FERGUS FALLS, MINN.—The Fergus Falls Rural Telephone Co. has been incorporated by the following: M. C. Kroneman, president; Wm. Schoening, vice-president; H. Kessinger, secretary-treasurer. The capital stock of the company is $2,400.

FAYETTE, N. Y.—The Yale Telephone Co. has recently been incorporated with a capital stock of $9,000. The directors are R. C. Allen, H. J. Williams and C. R. Kennedy.

KANONA, N. Y.—The Kanona-Towlesville Telephone Co. was organized recently by I. T. Dyer, J. W. Willis and T. R. Coats. The capital stock is $345.

MAINE, N. Y.—Articles of incorporation have been filed by the Maine Valley Telephone Co. The following are the incorporators: C. F. Holbrook, M. Zimmer, E. Payne, J. J. Atwater, Allen Saddlemire, F. Moulton, Eldon Rozelle and D. Little.

OVID, N. Y.—The Ovid Telephone Co. has been incorporated with a capital stock of $7,500. The directors are H. J. Williams, Ed. Williams and F. S. Williams.

NOBLE, OKLA.—The Denver-Noble Telephone Co. has been granted a charter recently. The incorporators are John Morton, G. G. Fishburn and L. B. Essary. The company is capitalized at $1,000.

ETHAN, S. D.—The Twelve Mile Telephone Co. has recently been incorporated by the following: F. R. Sand, E. E. Graves, A. Stainbrook and Geo. Bratz. The capital of the company is $2,500.

CARTHAGE, S. D.—The Rock Creek Telephone Co. has recently filed articles of incorporation, the capital stock being $1,800. The incorporators are: V. McNames, I. Pearson, D Felsing and O. G. Ohlson.

VIVIAN, S. D.—The Williams Creek Telephone Co. has been organized by Ed. Shives, B. V. Krammer, L. W. Day and W. L. Hitchcock. The capital stock of the company is $3,500..

BRIDGEPORT, TEX.—The Bridgeport Independent Telephone Co. has filed articles of incorporation with $3,500 capital stock. W. R. Longley, D. F. Reddell and J. E. Giles are the incorporators.

RANGER, TEX.—The Ranger Telephone Co. has been incorporated with a capital stock of $2,700 by the following: Dan Waggoner, J. M. Nicks and H. Brashear.

ROUND TOP, TEX.—The Farmers' Telephone Co. has recently been granted a charter by the state. F. Knoche, O. Emmrich and E. A. Wolle are the incorporators. The company is capitalized at $1,040.

### Underground.

RICHMOND, CAL.—An underground system of conduits is being contemplated in this city by the Pacific Telephone & Telegraph Co. The estimated cost of this work comes up into the thousands of dollars.

CUYAHOGA FALLS, OHIO.—The telephone companies in this city have been notified to place all overhead wires in underground conduits.

### Financial.

DEFIANCE, OHIO.—The Northwestern Telephone Co. has increased its capital stock from $100,000 to $150,000.

MIDDLEPOINT, OHIO.—The Middlepoint Home Telephone Co. has increased its capital stock from $6,000 to $25,000.

VOLANT, PA.—The Plain Grove Telephone Co. recently paid its annual dividend of 5 per cent.

WAYSIDE, WIS.—The Wayside Telephone Co. declared a 15 per cent. dividend at its annual meeting, held recently.

### Elections.

GOFF, KANS.—The stockholders of the Goffs Telephone Co. elected officers for the coming year as follows: C. S. Goodrich, president; John McManis, treasurer; D. Springer, secretary.

WINDSOR, MO.—The Missouri Union Telephone Co. held its annual meeting recently and elected the following officers: Wm. Trail, president; J. M. Spangler, vice-president; G. W. Schweer, secretary-manager.

HILLSBORO, N. D.—At the annual meeting of the Traill County Telephone Co. officers and directors were elected as follows: President, J. E. Paulson; secretary-treasurer, A. G. Foogman; P. S. Peterson, N. D. Nelson, C. C. Dalrymple and A. Andrews.

BIRDSBORO, PA.—The Conestoga Telephone & Telegraph Co. held its annual election recently at which the following officers were elected: J. A. Flannery, president; G. F. Handwork, vice-president; F. M. Brown, treasurer; H. A. Long, secretarq; J. K. Stoltzfus, manager.

OCONOMOWOC, WIS.—The Badger Telephone Co. has elected officers for the ensuing year as follows: President, John Steele; first vice-president, J. J. Reid; second vice-president, S. W. Counsell.

### Miscellaneous.

GREENFIELD, IOWA.--The Lincoln Mutual Telephone Co. has recently purchased the Crescent Mutual Telephone Co.

OSWEGO, KAN.—The Citizens Home Telephone Co. has recently been sold to L. A. Walker for $115,000.

ALMA, MICH.—The Union Telephone Co. offices were recently destroyed by fire. The loss is estimated at $5,000.

SAVANNAH, MO.—The Andrew County Telephone Exchange was seriously damaged by fire recently.

DAYTON, OHIO.—The Home Telephone Co. will improve its property to the extent of $75,000 this spring.

MOUNT PLEASANT, TEX.—The office of the Southwestern Telephone & Telegraph Co. was totally destroyed by fire recently.

TEXARKANA, TEX.—The Texarkana Telephone Co. has recently purchased the holdings of the Southwestern Telephone & Telegraph Co. in this town.